SOIL SURVEY OF

Autauga County, Alabama

United States Department of Agriculture
Soil Conservation Service
In cooperation with
Alabama Agricultural Experiment Station and
Alabama Department of Agriculture and Industries

This is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and agencies of the States, usually the Agricultural Experiment Stations. In some surveys, other Federal and local agencies also contribute. The Soil Conservation Service has leadership for the Federal part of the National Cooperative Soil Survey. In line with Department of Agriculture policies, benefits of this program are available to all who need the information, regardless of race, color, national origin, sex, religion, marital status, or age.

Major fieldwork for this soil survey was completed in the period 1966–71. Soil names and descriptions were approved in 1972. Unless otherwise indicated, statements in the publication refer to conditions in the county in 1971. This survey was made cooperatively by the Soil Conservation Service and the Alabama Agricultural Experiment Station, and the Alabama Department of Agriculture and Industries. It is part of the technical assistance furnished to the Autauga County Soil and Water Conservation District.

HOW TO USE THIS SOIL SURVEY

THIS SOIL SURVEY contains information that can be applied in managing farms, ranches, and woodlands; in selecting sites for roads, ponds, buildings, and other structures; and in judging the suitability of tracts of land for farming, industry, and recreation.

Locating Soils

All the soils of Autauga County are shown on the detailed map at the back of this publication. This map consists of many sheets made from aerial photographs. Each sheet is numbered to correspond with a number on the Index to Map Sheets.

On each sheet of the detailed map, soil areas are outlined and are identified by symbols. All areas marked with the same symbol are the same kind of soil. The soil symbol is inside the area if there is enough room; otherwise it is outside, and a pointer shows where the symbol belongs.

Finding and Using Information

The Guide to Mapping Units can be used to find information. This guide lists all the soils of the county in alphabetical order by map symbol and gives the capability classification of each. It also shows the page where each soil is described.

Individual colored maps showing the relative suitability or degree of limitation of soils for many specific purposes can be developed by using the soil map and the information in the text. Translucent material can be used as an overlay on the soil map and colored to show soils that have the same limitation or suitability. For example, soils that have a slight limitation for a given use can be colored green; those with a moderate limitation can be colored red.

Farmers and those who work with farmers can learn about use and management of the soils from the soil descriptions and from the descriptions of the capability units and woodland groups.

Foresters and others can refer to the section "Use of the Soils for Woodland," where the soils of the county are grouped according to their suitability for trees.

Game managers, sportsmen, and others can find information about soils and wildlife in the section "Wildlife Habitat."

Engineers and builders can find, under "Engineering Uses of the Soils," tables that contain test data, estimates of soil properties, and information about soil features that affect engineering practices.

Community planners and others can read about soil properties that affect the choice of sites for industrial buildings and recreation areas in the section "Town and Country Planning."

Scientists and others can read about how the soils formed and how they are classified in the section "Formation and Classification of the Soils."

Newcomers to Autauga County may be especially interested in the section "General Soil Map," where broad patterns of soils are described. They may also be interested in the information about the county given in the section "General Nature of the County."

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SOIL SURVEY OF AUTAUGA COUNTY, ALABAMA

Surveyed by Dwight M. Harris, Jr., and Cleo Stubbs, Soil Conservation Service

United States Department of Agriculture, Soil Conservation Service, in cooperation with the Alabama Agricultural Experiment Station and the Alabama Department of Agriculture and Industries

AUTAUGA COUNTY, in the central part of Alabama (fig. 1), has a land area of 559 square miles, or 383,360 acres. According to the 1970 census, the population was 24,460. Prattville, the county seat, had a population of 13,116. Industries providing farm machinery, wood products, and textile products are located in the county. Military installations and industries in nearby Montgomery provide employment for much of the population.

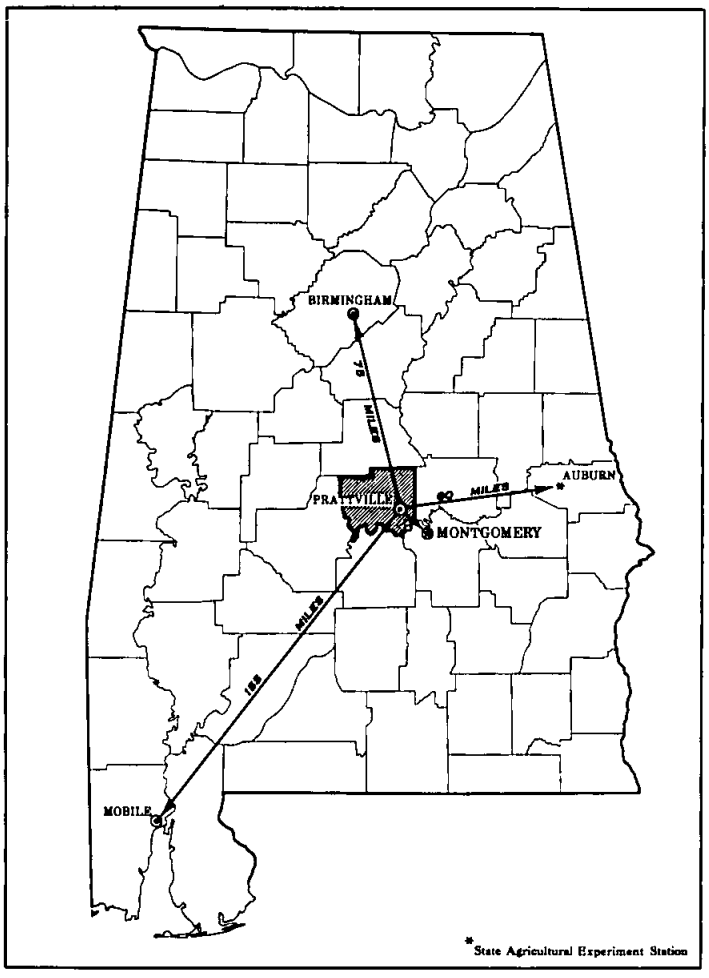

Figure 1.—Location of Autauga County in Alabama.

About 25 percent of the county is in pasture and row crops. Most of the acreage is in large farms, ranging up to several thousand acres in size. About 35 percent of the woodland is owned by corporations or individuals that have holdings of more than 1,000 acres. In the uplands, the woodland is mostly pine and scattered hardwoods. In the bottoms, it is gum, hardwoods, and scattered pine. Large acreages are being cleared and planted to pine.

The large farms are highly diversified. Small grain is planted for winter grazing and spring harvest. Cotton provides the major income from row crops, but grain sorghum, soybeans, and corn are also important. Beef cattle and hogs are the chief livestock.

Most of the acreage suitable for general farming is on terraces along the Alabama River, in the southern part of the county, and on a few scattered plateaus. The central and northern parts of the county are mainly steep or sandy soils.

The large areas of sandy soils and many of the finer textured hilly soils are well suited to perennial grass pasture. Permanent surface water is plentiful enough to meet the needs of pastured animals in most places.

How This Survey Was Made

Soil scientists made this survey to learn what kinds of soil are in Autauga County, where they are located, and how they can be used. The soil scientists went into the county knowing that they probably would find many soils they had already seen and perhaps some they had not. They observed the steepness, length, and shape of slopes, the size and speed of streams, the kinds of native plants or crops, the kinds of rock, and many facts about the soils. They dug many holes to expose soil profiles. A profile is the sequence of natural layers, or horizons, in a soil; it extends from the surface down into the parent material that has not been much changed by leaching or by the action of plant roots.

The soil scientists made comparisons among the profiles they studied, and they compared these profiles with those in nearby counties and in places more distant. They classified and named the soils according to nationwide, uniform procedures. The *soil series* and the *soil*

phase (*7*)[1] are the categories of soil classification most used in a local survey.

Soils that have profiles almost alike make up a soil series. Except for different texture in the surface layer, all the soils of one series have major horizons that are similar in thickness, arrangement, and other important characteristics. Each soil series is named for a town or other geographic feature near the place where a soil of that series was first observed and mapped. McQueen and Ruston, for example, are the names of two soil series. All the soils in the United States that have the same series name are essentially alike in those characteristics that affect their behavior in the undisturbed landscape.

Soils of one series can differ in texture of the surface layer and in slope, stoniness, or some other characteristic that affects use of the soils by man. On the basis of such differences, a soil series is divided into phases. The name of a soil phase indicates a feature that affects management. For example, Ruston fine sandy loam, 2 to 5 percent slopes, is one of several phases within the Ruston series.

After a guide for classifying and naming the soils had been worked out, the soil scientists drew the boundaries of the individual soils on aerial photographs.

The areas shown on a soil map are called mapping units. On most maps detailed enough to be useful in planning the management of farms and fields, a mapping unit is nearly equivalent to a soil phase. It is not exactly equivalent, because it is not practical to show on such a map all the small, scattered bits of soil of some other kind that have been seen within an area that is predominantly of a recognized soil phase.

Some mapping units are made up of soils of different series or of different phases within one series. Three such kinds of mapping units are shown on the soil map of Autauga County: soil complexes, soil associations, and undifferentiated groups.

A soil complex consists of areas of two or more soils, so intermingled or so small in size that they cannot be shown separately on the soil map. Each area of a complex contains some of each of the two or more dominant soils, and the pattern and relative proportions are about the same in all areas. The name of a soil complex consists of the names of the dominant soils, joined by a hyphen. The Osier-Bibb complex is an example.

A soil association is made up of adjacent soils that occur as areas large enough to be shown individually on the soil map but are shown as one unit because the time and effort of delineating them separately cannot be justified. There is a considerable degree of uniformity in pattern and relative extent of the dominant soils, but the soils may differ greatly from one another. The name of an association consists of the names of the dominant soils, joined by a hyphen. The Jones-Shubuta association, hilly, is an example.

An undifferentiated group is made up of two or more soils that could be delineated individually but are shown as one unit because, for the purpose of the soil survey, there is little value in separating them. The pattern and proportion of soils are not uniform. An area shown on the map may be made up of only one of the dominant soils, or of two or more. Lakeland soils, frequently flooded, is an example.

While a soil survey is in progress, samples of soils are taken, as needed, for laboratory measurements and for engineering tests. Laboratory data from the same kinds of soil in other places are assembled. Data on yields of crops under defined practices are assembled from farm records and from field or plot experiments on the same kinds of soil. Yields under defined management are estimated for all the soils.

But only part of a soil survey is done when the soils have been named, described, and delineated on the map and the laboratory data and yield data have been assembled. The mass of detailed information then must be organized in such a way as to be readily useful to different groups of users, among them farmers, managers of woodland, and engineers.

On the basis of yield and practice tables and other data, the soil scientists set up trial groups. They test these groups by further study and by consultation with farmers, agronomists, engineers, and others, and then adjust the groups according to the results of their studies and consultation. Thus, the groups that are finally evolved reflect up-to-date knowledge of the soils and their behavior under present methods of use and management.

General Soil Map

The general soil map at the back of this survey shows, in color, the soil associations in Autauga County. A soil association is a landscape that has a distinctive proportional pattern of soils. It normally consists of one or more major soils and at least one minor soil, and it is named for the major soils. The soils in one association may occur in another, but in a different pattern.

A map showing soil associations is useful to people who want a general idea of the soils in a county, who want to compare different parts of a county, or who want to know the location of large tracts that are suitable for a certain kind of land use. Such a map is a useful general guide in managing a watershed, a wooded tract, or a wildlife area, or in planning engineering works, recreational facilities, and community developments. It is not a suitable map for planning the management of a farm or field, or for selecting the exact location of a road, building, or similar structure, because the soils in any one association ordinarily differ in slope, depth, stoniness, drainage, and other characteristics that affect their management.

The eight soil associations in Autauga County are described on the following pages. The texture mentioned in the title for several of the associations applies to the texture of the surface layer. For example, in the title of the first association, "moderately coarse textured" refers to the texture of the surface layer.

1. *Myatt-Bibb-Benndale association*

Poorly drained and well drained, moderately coarse textured, nearly level soils on bottoms and stream terraces, many of which are frequently flooded

This association is on flood plains and low stream terraces along large creeks that flow southward through

[1] Italic numbers in parentheses refer to Literature Cited, p. 63.

the county. The creeks generally have shallow, meandering channels. The soils are nearly level and poorly drained and well drained. The dominant slope is less than 2 percent, but a few short slopes are as much as 5 percent.

This association makes up about 8 percent of the county. It is about 21 percent Myatt soils, 15 percent Bibb soils, 14 percent Benndale soils, and 50 percent less extensive soils.

Myatt soils are on low stream terraces throughout the association. They are poorly drained, and the water table is within a few inches of the surface during winter and spring. The surface layer is very dark gray fine sandy loam 5 inches thick. The subsoil is gray sandy loam to a depth of 17 inches and gray sandy clay loam mottled with strong brown to a depth of 41 inches. The underlying material to a depth of 60 inches is gray sandy loam.

Bibb soils are on first bottoms and are frequently flooded. Free water is at a depth of about 9 inches. The surface layer is 4 inches of brown sandy loam over 8 inches of mottled dark-gray and dark grayish-brown sandy loam. The underlying material is gray sandy loam to a depth of 37 inches and gray silt loam containing thin layers of sandy loam and loamy sand to a depth of 60 inches.

Benndale soils are on the higher stream terraces. The surface layer is 6 inches of very dark grayish-brown loamy fine sand over 5 inches of light olive-brown sandy loam. The subsoil is yellowish-brown sandy loam to a depth of 32 inches, yellowish-brown sandy loam mottled with strong brown to a depth of 47 inches, and mottled brownish-yellow, strong-brown, and red sandy loam to a depth of 70 inches.

Less extensive in this association are Blanton, Harleston, Lakeland, Osier, Rains, Roanoke, and Wickham soils. Blanton soils are on upland plateaus. Harleston, Lakeland, Rains, Roanoke, and Wickham soils are on stream terraces. Osier soils are on flood plains.

This association is used mainly for growing pulpwood and timber. The woodland is of high density, and the trees are of good commercial value. The adequately drained parts of the association are usually used for pasture and row crops.

2. *Wickham-McQueen-Roanoke association*

Well drained and poorly drained, moderately coarse textured to moderately fine textured, nearly level to gently sloping soils on stream terraces that are occasionally flooded

This association is dissected by several large creeks that flow southward into the Alabama River and by a few high upland ridges that extend to the riverbank. Natural surface drainage is poor. Many areas are ponded during periods of high rainfall.

This association makes up about 11 percent of the county. It is about 20 percent Wickham soils, 16 percent McQueen soils, 15 percent Roanoke soils, and 49 percent less extensive soils.

Wickham soils are level to gently sloping soils on stream terraces. The low stream terrace is subject to overflow when the river is at extreme flood stage. The surface layer is brown fine sandy loam 6 inches thick. The subsoil is yellowish-red loam to a depth of 12 inches, red clay loam to a depth of 21 inches, and yellowish-red sandy clay loam to a depth of 42 inches. The underlying material to a depth of 83 inches is loamy sand stratified with sandy loam and gravelly loamy sand.

McQueen soils are nearly level soils on low stream terraces. They are subject to overflow when the river is at flood stage. The surface layer is brown silt loam 8 inches thick. The subsoil is yellowish-red silty clay to a depth of 34 inches and mottled strong-brown and yellowish-red clay loam to a depth of 56 inches. The underlying material to a depth of 70 inches is strong-brown sandy clay loam.

Roanoke soils are in rounded depressions and along poorly defined drainageways on low stream terraces. They are ponded during periods of high rainfall and are subject to overflow when the river is at flood stage. The surface layer is gray silty clay loam 10 inches thick. The subsoil is light-gray silty clay mottled with strong brown to a depth of 31 inches and mottled light-gray, yellowish-brown, and strong-brown clay to a depth of 54 inches. The underlying material to a depth of 72 inches is brownish-yellow clay mottled with light gray and yellowish red.

Less extensive in this association are Altavista, Blanton, Harleston, Lakeland, and Vaiden soils, and Ochrepts. Altavista, Harleston, and Lakeland soils are on stream terraces. Blanton and Vaiden soils are on stream terraces and uplands. Ochrepts are on first bottoms and streambanks.

Most crops commonly grown in the county are grown on this association. All farm machinery can be used efficiently in the large fields of well drained and moderately well drained, level to very gently sloping soils. If the association is used for crops, the many scattered small depressions throughout the association require artificial drainage. The poorly drained soils are used for pasture and woodland. The woodland is of moderate to high density stands of mixed pine, gum, and hardwoods.

3. *Jones-Shubuta-Bibb association*

Well drained, moderately coarse textured, hilly soils on uplands and poorly drained, moderately coarse textured, nearly level soils on narrow stream flood plains

This association is highly dissected by small permanent streams that flow out of the association to join large creeks. The drainage pattern is dendritic. There are many, long and narrow, gently sloping ridgetops. Slopes range from 5 to 35 percent. Large caving gullies (fig. 2) are common.

This association makes up about 29 percent of the county. It is about 38 percent Jones soils, 33 percent Shubuta soils, 3 percent Bibb soils, and about 26 percent less extensive soils.

Jones soils occur throughout the association. Slopes are uniform and dominantly gentle; they range from 5 to 12 percent. The surface layer is 8 inches of dark-brown sandy loam over 4 inches of brown loamy sand. The subsoil is reddish-brown sandy loam to a depth of 17 inches, red sandy loam to a depth of 43 inches, and dark-red sandy loam to a depth of 52 inches. The underlying material to a depth of 73 inches is red loamy sand that contains mica flakes.

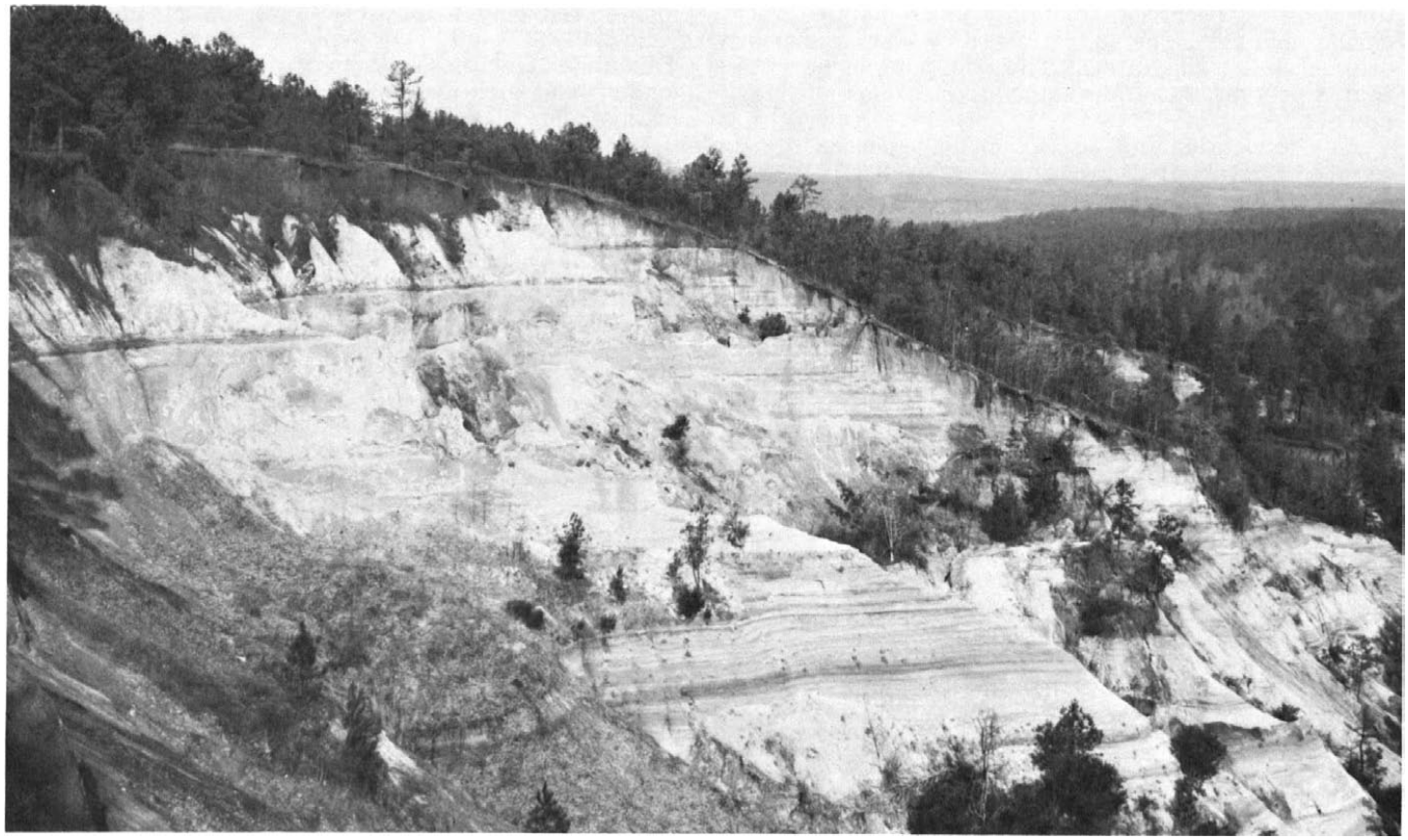

Figure 2.—Caving gully in Jones-Shubuta-Bibb association.

Shubuta soils are on the sides of narrow ridges. Slopes are commonly more than 12 percent. The steeper soils are adjacent to the flood plains of the larger streams that flow out of the association. The surface layer is dark grayish-brown fine sandy loam 4 inches thick. The subsoil is yellowish-red, very firm clay to a depth of 23 inches and red, friable sandy clay loam to a depth of 34 inches. The underlying material to a depth of 60 inches is yellowish-red sandy loam that contains pockets of gray sandy clay loam.

Bibb soils are on flood plains along permanent streams that flow out of the association. They are frequently flooded. Free water is about 9 inches below the surface. The surface layer is 4 inches of brown sandy loam over 8 inches of mottled dark-gray and dark grayish-brown sandy loam. The underlying material is gray sandy loam to a depth of 37 inches and gray silt loam that contains thin layers of sandy loam and loamy sand to a depth of 60 inches.

Less extensive in this association are Lucy, Ruston, and Troup soils. All of these soils are on the tops and sides of upland ridges.

This association is used mainly for growing pulpwood and timber. The woodland is of moderate to high density, and the trees are of good commercial value. Pine and scattered hardwoods are on the slopes, and gum, hardwoods, and scattered pines are on the flood plains.

4. Lucedale-Ruston-Shubuta association

Well drained, moderately coarse textured, nearly level to gently sloping soils on uplands

This association is on level to gently sloping plateaus and broad ridgetops on uplands of the Coastal Plain. Slopes are generally less than 8 percent. There are few permanent streams. Surface drainage is generally good; only a few areas are ponded.

This association makes up about 16 percent of the county. It is about 40 percent Lucedale soils, 15 percent Ruston soils, 10 percent Shubuta soils, and 35 percent less extensive soils.

Lucedale soils are on ridgetops and plateaus. Areas are broad, and slopes are commonly less than 2 percent. The surface layer is dusky-red fine sandy loam 9 inches thick. The subsoil is dark-red clay loam to a depth of 36 inches and dark-red sandy clay loam to a depth of 94 inches.

Ruston soils also are on ridgetops and plateaus. The surface layer is brown fine sandy loam 8 inches thick. The subsoil is yellowish-red sandy loam to a depth of 17 inches, red clay loam to a depth of 56 inches, and red sandy clay loam to a depth of 72 inches.

Shubuta soils are on strong upper slopes adjacent to the plateaus and ridgetops. The surface layer is dark grayish-brown fine sandy loam 4 inches thick. The subsoil is yellowish-red, very firm clay to a depth

of 23 inches and red, friable sandy clay loam to a depth of 34 inches. The underlying material is yellowish-red sandy loam that contains pockets of gray sandy clay loam.

Less extensive in this association are Blanton, Faceville, Jones, and Pine Flat soils. All of these soils are on uplands.

This association is used mainly for row crops. The terrain and size of fields are suited to the use of farm machinery. Most areas where the slope is more than 8 percent are pastured or are wooded with pine.

5. *Sumter-Faceville-Vaiden association*

Well drained and somewhat poorly drained, fine textured and moderately fine textured, hilly soils on uplands

This association consists of undulating to steep, alkaline and acid soils of the Coastal Plain. Ridgetops are narrow and irregular, and within a short distance the slope changes in both gradient and direction. The terrain is highly dissected, and the drainage pattern is dendritic.

This association makes up about 4 percent of the county. It is about 35 percent Sumter soils, 30 percent Faceville soils, 25 percent Vaiden soils, and 10 percent less extensive soils.

Sumter soils are on midslopes and undulating foot slopes throughout the association. The surface layer is dark grayish-brown clay 5 inches thick. The subsoil is pale-olive, alkaline clay to a depth of 26 inches; below a depth of 17 inches it has yellowish-brown mottles. The underlying material to a depth of 48 inches is mottled light brownish-gray and gray clay that has strong, medium, platy structure.

Faceville soils are on the tops and upper sides of ridges. The surface layer is reddish-brown sandy clay loam about 5 inches thick. The subsoil is red clay loam to a depth of 11 inches, red sandy clay to a depth of 37 inches, and red clay loam mottled with brown and very pale brown to a depth of 65 inches. In most places the soil contains common to many rounded quartz pebbles.

Vaiden soils are on the lower, more gentle slopes. The surface layer is dark grayish-brown silty clay 6 inches thick. The subsoil is yellowish-brown clay to a depth of 15 inches and mottled yellowish-brown, yellowish-red, and light-gray clay to a depth of 23 inches. The underlying material to a depth of 54 inches is very firm, mottled gray clay that contains pebbles.

Less extensive in this association are Norfolk, Roanoke, and Saffell soils. Norfolk and Saffell soils are on uplands. Roanoke soils are on low stream terraces.

This association is used mainly for woodland and pasture. The woodland is of moderate to high density on the Vaiden and Faceville parts of the association, and the trees are of good commercial value. Woodland on the Sumter part of the association is mainly redcedar and scrubby hardwoods of low value. A few of the larger, more nearly level areas are used for row crops.

6. *Troup-Blanton-Alaga association*

Well drained and somewhat excessively drained, coarse-textured, nearly level to sloping soils on uplands

This association is on high, nearly level plateaus and gently sloping to sloping ridgetops. It is drained by shallow, broadly branching, intermittent streams.

This association makes up about 9 percent of the county. It is about 51 percent Troup soils, 20 percent Blanton soils, 6 percent Alaga soils, and 23 percent less extensive soils.

Troup soils generally have slopes of 0 to 8 percent, but slopes range up to about 20 percent along drainageways. The surface layer is loamy sand 48 inches thick; the upper 16 inches is dark brown and dark yellowish brown, and the lower 32 inches is strong brown. The subsoil is yellowish-red loamy sand to a depth of 64 inches and red sandy loam to a depth of 80 inches.

Blanton soils are on broad flats. Slopes are less than 2 percent. The surface layer is loamy sand; it is brown to a depth of 7 inches, yellowish brown to a depth of 59 inches, and very pale brown to a depth of 66 inches. The subsoil is sandy loam; it is yellowish brown to a depth of 74 inches; below this to a depth of 90 inches it is compact and is mottled with red, light brownish gray, and brown. This layer restricts the movement of water.

Alaga soils have slopes of 1 to 5 percent. The surface layer is dark grayish-brown loamy sand to a depth of 46 inches and reddish-yellow sand to a depth of 77 inches.

Less extensive in this association are Lucy, Pine Flat, and Shubuta soils. All of these soils are on uplands.

This association is used mainly for pasture, hay, and winter small grain. Part of the acreage is planted to soybeans, vegetable crops, cotton, and corn. Plantations of loblolly and slash pines have been established in recent years. Most areas where the slope is greater than 8 percent are in stands of low-quality hardwoods and scattered pines.

7. *Troup-Shubuta-Bibb association*

Well drained, coarse textured and moderately coarse textured, hilly to steep soils on uplands and poorly drained, moderately coarse textured, nearly level soils on narrow flood plains

This association is highly dissected by many small permanent streams that flow out of the association. The drainage pattern is dendritic. Flood plains are narrow. The upper slopes are generally smooth and uniform; the lower slopes are steep and irregular.

This association makes up about 19 percent of the county. It is about 44 percent Troup soils, 23 percent Shubuta soils, 3 percent Bibb soils, and 30 percent less extensive soils.

Troup soils are on the upper parts of slopes and the larger ridgetops. The surface layer is loamy sand; it is dark brown to a depth of 9 inches, yellowish brown to a depth of 16 inches, and strong brown to a depth of 48 inches. The subsoil is yellowish-red loamy sand

to a depth of 64 inches and red sandy loam to a depth of 80 inches.

Shubuta soils are on steep lower slopes and narrow irregular low ridges. The surface layer is dark grayish-brown fine sandy loam 4 inches thick. The subsoil is yellowish-red clay to a depth of 23 inches and red sandy clay loam to a depth of 34 inches. The underlying material to a depth of 60 inches is yellowish-red sandy loam that contains pockets of gray sandy clay loam.

Bibb soils are on flood plains of permanent streams that flow out of the association. Free water is about 9 inches below the surface, and the soils are frequently flooded. The surface layer is 4 inches of brown sandy loam over 8 inches of mottled dark-gray and dark grayish-brown sandy loam. The underlying material is gray sandy loam to a depth of 37 inches and gray silt loam containing thin layers of sandy loam and loamy sand to a depth of 60 inches.

Less extensive in this association are Blanton, Lucy, Norfolk, Osier, and Ruston soils. All these soils are on uplands except Osier soils, which are on flood plains.

This association is used mainly for growing pulpwood and timber. The woodland is of moderate to high density on the lower slopes and low ridges, and the trees are of good commercial value. The sandy upper slopes are in low-quality hardwoods and scattered pine. Plantations of slash and loblolly pines have recently been established. A few scattered, small farms produce pasture and row crops.

8. Flomaton-Shubuta association

Excessively drained and well drained, coarse textured and moderately coarse textured, hilly soils on uplands

This association is on hilly uplands of the Coastal Plain. There are many narrow, irregular ridgetops. Slopes range from 8 to 25 percent. The terrain is highly dissected and the drainage pattern is dendritic.

This association makes up about 4 percent of the county. It is 42 percent Flomaton soils, 23 percent Shubuta soils, and 35 percent less extensive soils.

Flomaton soils are on lower slopes and low ridgetops. In sequence from the top, the surface layer is 3 inches of very dark grayish-brown gravelly loamy sand, 8 inches of brown gravelly loamy sand, and 16 inches of light yellowish-brown gravelly sand. The subsoil is reddish-yellow gravelly loamy sand to a depth of 49 inches, yellowish-brown and reddish-brown gravelly loamy sand stratified with gravelly sand and sandy loam to a depth of 60 inches, and brownish-yellow gravelly sandy loam to a depth of 88 inches.

Shubuta soils are on the tops and sides of ridges. The surface layer is dark grayish-brown fine sandy loam 4 inches thick. The subsoil is yellowish-red clay to a depth of 23 inches and red sandy clay loam to a depth of 34 inches. The underlying material to a depth of 60 inches is yellowish-red sandy loam that contains pockets of gray sandy clay loam.

Less extensive in this association are Bibb, Ruston, and Troup soils. The poorly drained Bibb soils are in narrow drainageways. The well-drained Ruston and Troup soils are on uplands.

This association is used mainly for growing pulpwood and timber. The woodland is of moderate density, and the trees are of good commercial value. Pine and scattered low-quality hardwoods are on the slopes. High-quality gum and hardwoods and a few scattered pines are on the bottoms. A few areas are used for pasture and row crops.

Descriptions of the Soils

This section describes the soil series and mapping units in Autauga County. Each soil series is described in detail, and then, briefly, each mapping unit in that series. Unless it is specifically mentioned otherwise, it is to be assumed that what is stated about the soil series holds true for the mapping units in that series. Thus, to get full information about any one mapping unit, it is necessary to read both the description of the mapping unit and the description of the soil series to which it belongs.

An important part of the description of each soil series is the soil profile, that is, the sequence of layers from the surface downward to rock or other underlying material. Each series contains two descriptions of this profile. The first is brief and in terms familiar to the layman. The second, detailed and in technical terms, is for scientists, engineers, and others who need to make thorough and precise studies of soils. Unless it is otherwise stated, the colors given in the descriptions are those of a moist soil.

Following the name of each mapping unit is a symbol in parentheses. This symbol identifies the mapping unit on the detailed soil map. Listed at the end of each description of a mapping unit is the capability unit and woodland group to which the soil has been assigned. The page for the description of each mapping unit can be found by referring to the Guide to Mapping Units at the back of this survey.

The acreage and proportionate extent of each mapping unit are shown in table 1. Many terms used in describing soils can be found in the Glossary at the end of this survey. More detailed information about the terminology and methods of soil mapping can be obtained from the Soil Survey Manual (*7*).

Alaga Series

The Alaga series consists of well-drained to somewhat excessively drained, level to gently sloping soils on uplands. Alaga soils formed in thick beds of unconsolidated sandy marine deposits on the tops and sides of ridges. The native vegetation was mainly pine and scattered hardwoods.

In a representative profile the surface layer is dark grayish-brown loamy sand 9 inches thick. The underlying material is yellowish-brown loamy sand to a depth of 46 inches and reddish-yellow sand to a depth of 77 inches.

Permeability is rapid, and the available water capacity is low. The water table is below a depth of 72 inches. The organic-matter content is low. Roots are not restricted.

These soils respond well to lime, but are rapidly leached of applied potash and nitrogen. They can be worked throughout a wide range of moisture content without clodding or crusting. When dry, however, they provide poor traction for farm machinery.

TABLE 1.—*Approximate acreage and proportionate extent of the soils*

Soils	Area	Extent	Soils	Area	Extent
	Acres	*Percent*		*Acres*	*Percent*
Alaga loamy sand, 0 to 5 percent slopes	2,286	0.6	Ochrepts, loamy, 5 to 25 percent slopes	3,360	0.9
Altavista loam, 0 to 2 percent slopes	2,553	.7	Osier-Bibb complex	5,253	1.4
Altavista loam, 2 to 5 percent slopes	969	.3	Pine Flat sandy loam, 0 to 5 percent slopes	4,389	1.1
Benndale loamy fine sand	4,369	1.1	Rains fine sandy loam	5,460	1.4
Bibb soils	2,245	.6	Roanoke complex	6,500	1.7
Blanton loamy sand	9,484	2.5	Ruston fine sandy loam, 0 to 2 percent slopes	1,994	.5
Faceville sandy clay loam, 2 to 5 percent slopes	2,098	.5	Ruston fine sandy loam, 2 to 5 percent slopes	4,730	1.2
Flomaton-Shubuta association, hilly	14,297	3.7	Ruston fine sandy loam, 4 to 10 percent slopes, eroded	4,739	1.2
Grady complex	218	.1	Saffell gravelly fine sandy loam, 2 to 8 percent slopes	2,070	.5
Harleston loamy fine sand	8,398	2.2	Shubuta-Saffell complex, 10 to 30 percent slopes	2,784	.7
Jones-Lucedale-Shubuta complex, 10 to 25 percent slopes	1,160	.3	Shubuta-Troup association, hilly	38,386	10.0
Jones-Shubuta association, hilly	108,381	28.4	Sumter-Faceville-Vaiden association, hilly	15,471	4.0
Lakeland loamy sand, 0 to 5 percent slopes	2,084	.5	Troup loamy sand, 2 to 8 percent slopes	14,590	3.8
Lakeland soils, frequently flooded	1,470	.4	Troup association, hilly	44,386	11.6
Lucedale fine sandy loam, 0 to 2 percent slopes	7,126	1.8	Vaiden silty clay	579	.2
Lucedale fine sandy loam, 2 to 5 percent slopes	9,510	2.5	Wickham loamy sand, 0 to 5 percent slopes	1,584	.4
Lucedale fine sandy loam, 4 to 10 percent slopes, eroded	8,346	2.2	Wickham fine sandy loam, 0 to 2 percent slopes	3,482	1.0
Lucy loamy sand, 0 to 5 percent slopes	2,842	.7	Wickham fine sandy loam, 2 to 5 percent slopes	2,209	.6
McQueen silt loam	7,093	1.8	Wickham soils, 5 to 17 percent slopes	1,363	.4
Myatt-Bibb association	15,554	4.1	Sand and gravel pits	543	.1
Norfolk loamy fine sand, 0 to 2 percent slopes	1,422	.4	Water	2,422	.6
Norfolk fine sandy loam, 2 to 5 percent slopes	2,397	.6			
Norfolk fine sandy loam, 5 to 8 percent slopes	818	.2	Total	383,360	100.0
Ochrepts, loamy, 0 to 5 percent slopes	1,946	.5			

Alaga soils are well suited to hay, pasture, and woodland. About half the acreage is wooded with low-quality hardwoods and a few scattered pines. Good stands of pine have been established in a few old fields.

Representative profile of Alaga loamy sand, 0 to 5 percent slopes, in a fallow field 1 mile north of Posey's Crossroads; SE¼SE¼NW¼ sec. 34, T. 19 N., R. 15 E.

Ap—0 to 9 inches, dark grayish-brown (10YR 4/2) loamy sand; weak, medium, granular structure; very friable; strongly acid; clear, smooth boundary.

C1—9 to 46 inches, yellowish-brown (10YR 5/8) loamy sand; single grained; loose; very strongly acid; gradual, smooth boundary.

C2—46 to 77 inches; reddish-yellow (7.5YR 6/6) sand; single grained; loose; very strongly acid; gradual, smooth boundary.

The profile is very strongly acid or strongly acid throughout. All horizons are sand or loamy sand. The A horizon ranges from grayish brown to dark grayish brown. The upper part of the C horizon is strong brown to yellowish brown. The lower part ranges from yellowish brown to yellow and reddish yellow.

Alaga soils are associated with Blanton, Lucy, and Troup soils. They lack a B horizon, which is at a depth of 20 to 40 inches in Lucy soils and 40 to 70 inches in Blanton and Troup soils.

Alaga loamy sand, 0 to 5 percent slopes (AaB).—This soil occurs as broad areas 40 to several hundred acres in size. Included in mapping are small areas of Lucy, Troup, and Blanton soils and a few small areas where slopes are greater than 5 percent.

This Alaga soil is suited to winter grain and certain varieties of deep-rooted lespedeza and clover. It is not suited to row crops because it is deficient in moisture in most years.

Drought-resistant varieties of cultivated crops should be planted. A split application of fertilizer helps to offset loss through leaching. Green manure crops and crop residue help in maintaining the level of organic matter and improve available moisture capacity. Capability unit IIIs–14; woodland group 3s3.

Altavista Series

The Altavista series consists of moderately well drained, nearly level to gently sloping soils on stream terraces. These soils formed in thick beds of unconsolidated loamy stream deposits. The native vegetation was pine and mixed gum and hardwoods.

In a representative profile the surface layer is dark grayish-brown loam 6 inches thick. The subsoil is yellowish-brown loam to a depth of 14 inches, olive-yellow clay loam to a depth of 27 inches, and mottled gray, strong-brown, and olive-yellow clay loam to a depth of 65 inches.

Permeability is moderate, and the available water capacity is moderate. The seasonal high water table is at a depth of about 30 inches. The organic-matter content is low.

These soils can be worked within only a fairly narrow range of moisture content without clodding and crusting. They respond well to lime and fertilizer.

Altavista soils are generally well suited to row crops, pasture, woodland, and wildlife. Most of the acreage is cleared. A small part is wooded.

Representative profile of Altavista loam, 0 to 2 percent slopes, in a pasture of dallisgrass and white clover 1.5 miles southeast of Forester; NE¼NE¼ SE¼ sec. 29, T. 17 N., R. 15 E.

Ap—0 to 6 inches, dark grayish-brown (10YR 4/2) loam; faces of peds; medium acid; gradual, smooth boundary.

B21t—6 to 14 inches, yellowish-brown (10YR 5/4) loam; weak, medium, subangular blocky structure; friable; many worm and root holes filled with material from Ap horizon; few patchy clay films on faces of peds; medium acid; gradual, smooth boundary.

B22t—14 to 27 inches, olive-yellow (2.5Y 6/6) clay loam; weak, medium, subangular blocky structure; firm; few patchy clay films on faces of peds; few fine flakes of mica; strongly acid; gradual, smooth boundary.

B23tg—27 to 42 inches, mottled light brownish-gray (2.5Y 6/2), olive-yellow (2.5Y 6/6), and strong-brown (7.5YR 5/8) clay loam; moderate, medium, subangular blocky structure; very firm; nearly continuous clay films on faces of peds; few fine flakes of mica; strongly acid; gradual, smooth boundary.

B3g—42 to 65 inches, mottled gray (10YR 6/1), strong-brown (7.5YR 5/6), and olive-yellow (2.5Y 6/6) clay loam; weak, medium, subangular blocky structure; very firm; common flakes of mica; strongly acid.

The Ap horizon ranges from medium acid to neutral, and the B horizon from strongly acid to medium acid. The Ap horizon ranges from 6 to 12 inches in thickness and is grayish brown or dark grayish brown. The B2 horizon ranges from loam to clay loam. The B21t and B22t horizons range from yellowish brown to strong brown and olive yellow. The B23tg horizon is mottled gray, pale brown, yellowish red, olive yellow, and strong brown and in places has a yellowish-brown matrix mottled with those colors. The B3 horizon is mottled gray, pale-brown, yellow, red, and strong-brown sandy clay loam or clay loam. Mica flakes are common to many in the B3 horizon.

These soils have gray mottles at a depth of 26 to 34 inches, which is slightly deeper than is defined as the range for the series. This difference, however, does not affect the management of the soil.

Altavista soils are associated with Rains, Roanoke, and Wickham soils. They are better drained than Rains and Roanoke soils and therefore are not so gray. They are not so well drained as Wickham soils.

Altavista loam, 0 to 2 percent slopes (AtA).—This nearly level soil is on stream terraces. It has the profile described as representative of the series. Most areas range from 10 to 25 acres in size and are on slightly low parts of the landscape.

Included with this soil in mapping are many small depressions and a few long, poorly defined drainageways that are ponded in wet seasons. Also included are areas where the upper part of the subsoil is slightly acid.

This Altavista soil is not so warm as the adjoining Wickham soils and for this reason is slower to dry. If adequately drained, areas of this soil can be farmed along with adjacent soils in large fields in which large farm machinery can be used effectively. Wetness is the major limitation.

This soil is suited to most crops grown in the county. In many areas it is well suited to an underground drainage system, which removes water from ponded areas and eliminates surface ditches. Green manure crops help in maintaining the level of organic matter. They also improve soil tilth and help the soil to dry in spring. Proper use of crop residue is also important. Capability unit IIw–36; woodland group 2w8.

Altavista loam, 2 to 5 percent slopes (AtB).—This gently undulating soil is on the Alabama River terrace. Slopes are long and narrow. Areas range from 5 to 25 acres in size.

Included with this soil in mapping are small areas of Wickham and Rains soils. Wickham soils are on low knolls. Rains soils are in small depressions and shallow drainageways. Also included is a small acreage where the soil is more clayey. In a few eroded spots, the yellow subsoil is within normal plow depth.

This Altavista soil is not so warm as the adjoining Wickham soils and for this reason is slower to dry. Most areas can be farmed along with other soils in large fields that are well suited to the use of large farm machinery. Wetness in the depressions and a moderate erosion hazard are limitations.

This soil is suited to most crops grown in the county. Adequate drainage of the depressions greatly increases its suitability for crops. Many areas are well suited to the installation of an underground drainage system that eliminates surface ditches. The topography makes the installation of terraces and waterways impractical in most areas, but terraces can be used to advantage in a few areas.

A close-growing crop in the cropping system is effective in erosion control. Green manure crops help to control erosion, improve soil tilth, maintain the level of the organic matter, and dry out the soil in spring. Minimum tillage, deep plowing, and proper use of crop residue are important also. Capability unit IIe–36; woodland group 2w8.

Benndale Series

The Benndale series consists of well-drained, nearly level soils on stream terraces. These soils formed in thick beds of loamy stream deposits. The native vegetation was pine and scattered hardwoods.

In a representative profile the surface layer is 6 inches of very dark grayish-brown loamy fine sand over 5 inches of light olive-brown sandy loam. The subsoil is yellowish-brown sandy loam to a depth of 32 inches, yellowish-brown sandy loam mottled with strong brown to a depth of 47 inches, and mottled brownish-yellow, strong-brown, and red sandy loam to a depth of 70 inches.

Permeability is moderate, and the available water capacity is moderate. The seasonal high water table is at a depth of about 60 inches. The organic-matter content is low.

These soils respond well to lime and fertilizer. They have good tilth and can be worked throughout a wide range of moisture content without clodding or crusting.

Benndale soils are suited to crops, pasture, woodland, and wildlife. Most of the acreage is cleared. Small areas that are within larger areas of more poorly drained soils are in woodland.

Representative profile of Benndale loamy fine sand, in a Coastal bermudagrass pasture 1¼ miles east of Autaugaville; SW¼SW¼NE¼ sec. 23, T. 17 N., R. 14 E.

Ap—0 to 6 inches, very dark grayish-brown (10YR 3/2)

loamy fine sand; weak, fine, granular structure; very friable; medium acid; clear, smooth boundary.
A2—6 to 11 inches, light olive-brown (2.5YR 5/4) sandy loam; weak, fine, granular structure; very friable; strongly acid; gradual, smooth boundary.
B1—11 to 17 inches, yellowish-brown (10YR 5/8) sandy loam; many, fine, distinct, yellow (2.5Y 7/6) mottles; very weak, medium, subangular blocky structure; very friable; sand grains coated and bridged with clay; strongly acid; diffuse, smooth boundary.
B21t—17 to 32 inches, yellowish-brown (10YR 5/8) sandy loam; very weak, medium, subangular blocky structure; very friable; sand grains coated and bridged with clay; strongly acid; diffuse, smooth boundary.
B22t—32 to 47 inches, yellowish-brown (10YR 5/8) sandy loam; common, medium, distinct, strong-brown (7.5YR 5/6) mottles; weak, medium, subangular blocky structure; very friable; sand grains coated and bridged with clay; very strongly acid; diffuse, smooth boundary.
B3—47 to 70 inches, mottled brownish-yellow (10YR 6/6), strong-brown (7.5YR 5/6), and red (2.5Y 4/6) sandy loam; weak, medium, subangular blocky structure; friable; few, red, patchy clay films on faces of peds; very strongly acid.

The A horizon ranges from strongly acid to medium acid, and the B horizon is very strongly acid or strongly acid. The Ap horizon ranges from gray to very dark grayish brown. The B2t horizon ranges from yellowish brown to olive yellow and from sandy loam to sandy clay loam. The lower part is mottled with brown and yellowish red. The B3 horizon is loam or sandy loam mottled with yellow, brown, and red.

Benndale soils are associated with Harleston, Rains, and Wickham soils. They are better drained than Harleston and Rains soils. Their B horizon is coarser textured and is not so red as that of Wickham soils.

Benndale loamy fine sand (Be).—Most areas of this soil range from 10 to 80 acres in size and occupy the highest position on the landscape. Slopes range from 0 to 2 percent.

Included with this soil in mapping are poorly drained depressions that are ponded during periods of high rainfall. Spring plowing is delayed by wetness in these depressions unless surface drainage is provided. On about one-third of this mapping unit the surface layer is loamy sand 10 to 25 inches thick. Also included are small areas where the subsoil is more clayey than is typical.

This soil is well suited to hay, pasture, and winter small grain. Its major limitation is a deficiency of moisture during the growing season. Green manure crops and proper use of crop residue help in maintaining the content of organic matter and conserve moisture. Capability unit IIs–13; woodland group 2o1.

Bibb Series

The Bibb series consists of poorly drained, nearly level soils on flood plains. These soils formed in recently deposited beds of stream alluvium. The native vegetation was forests of gum, oak, and maple and a dense undergrowth of water- and shade-tolerant briers, vines, and shrubs.

In a representative profile the surface layer is 4 inches of brown sandy loam over 8 inches of mottled dark-gray and dark grayish-brown sandy loam. The underlying material is gray sandy loam to a depth of 37 inches and gray silt loam that contains thin layers of sandy loam and loamy sand to a depth of 60 inches.

Permeability is moderate, and the available water capacity is moderate to high. The seasonal high water table is at a depth of about 9 inches. These soils are frequently flooded for short periods. The organic-matter content is moderate to high.

The use of Bibb soils is limited by frequent flooding and poor drainage. The soils are suited to woodland and wildlife. Most of the acreage is in woodland. A few small areas are in pasture.

Representative profile of Bibb sandy loam, in dense woods 75 yards north of Martin Boulevard near Pine Creek in Prattville; SE¼SW¼SW¼ sec. 26, T. 13 N., R. 16 E. Soil wet when described.

A11—0 to 4 inches, brown (10YR 4/3) sandy loam; weak, fine, granular structure; friable; strongly acid; abrupt, wavy boundary.
A12—4 to 12 inches, mottled dark-gray (N 4/0) and dark grayish-brown (10YR 4/2) sandy loam; weak, fine, granular structure; friable; common, fine, strong-brown stains around old roots; strongly acid; clear, wavy boundary.
C1g—12 to 37 inches, gray (5Y 5/1) sandy loam; single grained; loose; common, medium, strong brown (7.5YR 5/6) stains around old roots; common thin strata of silt loam to loamy sand; some strata have bits of partly decomposed forest residue; very strongly acid; clear, wavy boundary.
C2g—37 to 60 inches, gray (N 5/0) silt loam; massive; slightly sticky; common strata of sandy loam and loamy sand; common thin strata of partly decomposed forest residue; strongly acid.

The profile is very strongly acid or strongly acid throughout. The A11 horizon ranges from brown to very dark grayish brown and from sandy loam to silt loam. The A12g horizon ranges from dark gray to dark grayish brown and from sandy loam to loam. The C horizon is sandy loam in the upper part and sandy loam to silt loam in the lower part.

Bibb soils are associated with Myatt and Osier soils. They are stratified and coarser textured than Myatt soils, and they do not have the Bt horizon characteristic of Myatt soils. Bibb soils are less sandy throughout than Osier soils.

Bibb soils (Bs).—These are nearly level soils on flood plains along medium-sized creeks. Slopes are 0 to 2 percent. Most areas are several miles long and one-eighth to one-fourth mile wide. The surface is generally rough and uneven because it has been scoured by floodwater and cut by remnants of old stream channels.

These soils have the profile described as representative of the series. The surface layer ranges from sandy loam to silt loam. Included in mapping are long, poorly defined drainageways and a few rounded depressions that are ponded during wet periods. Also included are small areas of Myatt and Osier soils and small areas of better drained soils.

If adequately drained and protected from flooding, these Bibb soils are suited to row crops and pasture. Capability unit Vw–13; woodland group 2w9.

Blanton Series

The Blanton series consists of somewhat excessively drained, nearly level soils on uplands. These soils formed in thick beds of unconsolidated sandy marine deposits. The native vegetation was longleaf pine and scattered hardwoods.

In a representative profile the surface layer is loamy sand; it is brown to a depth of 7 inches and yellowish brown to a depth of 59 inches. The subsurface layer is

very pale brown loamy sand to a depth of 66 inches. The subsoil is yellowish-brown sandy loam to a depth of 90 inches; the lower 16 inches is mottled and compact.

Permeability is rapid in the sandy upper part of the soil and moderately rapid in the lower part. The available water capacity is low. The seasonal high water table is at a depth of about 60 inches. The organic-matter content is low.

These soils respond well to lime and fertilizer, but are leached of plant nutrients. They can be worked throughout a wide range of moisture content without clodding or crusting.

Blanton soils are fairly well suited to row crops and are well suited to pasture, hay, and woodland. Most of the acreage is cleared. Good stands of pine have been established in some areas in recent years.

Representative profile of Blanton loamy sand, 2 miles south of Vaughn's Store at White City; SE¼ NW¼SW¼ sec. 18, T. 19 N., R. 15 E.

Ap—0 to 7 inches, brown (10YR 4/3) loamy sand; weak, fine, granular structure; very friable; medium acid; abrupt, smooth boundary.

A1—7 to 59 inches, yellowish-brown (10YR 5/4) loamy sand; weak, medium, subangular blocky structure; very friable; sand grains coated with iron oxides; medium acid; diffuse, smooth boundary.

A2—59 to 66 inches, very pale brown (10YR 7/4) loamy sand; single grained, loose; few streaks and pockets of clean white sand about 1 percent small hard nodules of plinthite; strongly acid; clear, wavy boundary.

B1t—66 to 74 inches, yellowish-brown (10YR 5/6) sandy loam; weak, medium, subangular blocky structure; friable; sand grains coated and bridged with clay; strongly acid; clear, wavy boundary.

B2t—74 to 90 inches, yellowish-brown (10YR 5/6) sandy loam; common, medium, prominent, red (2.5YR 4/6) mottles and common, medium, distinct, light brownish-gray (10YR 6/2) and brown (7.5YR 4/4) mottles; weak, medium, subangular blocky structure; firm and compact in places; about 2 percent soft nodules of plinthite; few clay films on faces of peds; strongly acid.

The A horizon is strongly acid to medium acid, and the B horizon is very strongly acid or strongly acid. The A horizon ranges from 40 to 72 inches in thickness, but is generally 60 to 70 inches thick. The Ap horizon is brown to dark grayish brown in cultivated areas, but ranges to very dark grayish brown in areas of grass sod. The A2 horizon ranges from dark yellowish brown to very pale brown. In places the lower part of the A horizon has streaks and pockets of nearly clean sand. The upper 5 to 15 inches of the Bt horizon is very pale brown to yellowish-brown sandy loam or sandy clay loam. The lower part is firm and compact. It is typically yellowish-brown or brownish-yellow sandy loam or sandy clay loam mottled with brown, red, and gray. Plinthite content is 0 to about 3 percent.

Blanton soils are associated with Alaga, Lakeland, Lucy, Norfolk, and Troup soils. Unlike Alaga and Lakeland soils, Blanton soils have a B horizon. They have a thicker sandy A horizon and are more yellow in the B horizon than Lucy soils. They have a much thicker A horizon than Norfolk soils. Unlike Troup soils, they have a perched water table, a compact yellow B horizon, and small amounts of plinthite.

Blanton loamy sand (Bt).—This soil is generally in broad areas, as much as several hundred acres in size. Slopes range from 0 to 2 percent, but most are less than 1 percent.

Included with this soil in mapping are a few small wet spots that are ponded for short periods during the wet season. Also included are a few areas where slopes are as great as 6 percent and a small area of a similar soil on the Alabama River terrace.

The size and shape of most areas make this soil well suited to use of large farm machinery. Moisture deficiency and leaching of fertilizers are the major limitations if this soil is used for row crops. If row crops are grown, drought-resistant varieties should be planted. Split applications of fertilizer reduce the hazard of leaching. Green manure crops and proper use of crop residue help in maintaining the level of organic matter and improve available water capacity. Capability unit IIIs–14; woodland group 4s3.

Faceville Series

The Faceville series consists of well-drained, gently sloping to strongly sloping soils on uplands. In most areas mapped, these soils are gently sloping; in the Sumter-Faceville-Vaiden association, they are strongly sloping. Faceville soils formed in thick beds of unconsolidated marine deposits. The native vegetation was pine and scattered hardwoods.

In a representative profile the surface layer is reddish-brown sandy clay loam 5 inches thick. The subsoil is red clay loam to a depth of 11 inches, red sandy clay to a depth of 37 inches, and red clay loam mottled with brown and very pale brown to a depth of 65 inches.

Water moves through these soils at a moderate rate, and a moderate amount is available to plants. The seasonal high water table is below a depth of 72 inches. The organic-matter content is low.

These soils respond well to lime and fertilizer. They provide poor traction for farm machinery when wet and form clods when plowed at other than optimum moisture content. Most of the acreage is cleared. Many areas in the more hilly part of the county have been planted to pine trees.

Representative profile of Faceville sandy clay loam, 2 to 5 percent slopes, 4 miles south of Evergreen; NW¼SW¼ sec. 34, T. 19 N., R. 13 E.

Ap—0 to 5 inches, reddish-brown (5YR 4/4) sandy clay loam; weak, fine, granular structure; friable; medium acid; abrupt, wavy boundary.

B21t—5 to 11 inches, red (2.5YR 4/8) clay loam; weak, medium, subangular blocky structure; firm; few, thin, patchy clay films on faces of peds; strongly acid; gradual, smooth boundary.

B22t—11 to 37 inches, red (2.5YR 4/8) sandy clay; weak to moderate, subangular blocky structure; firm; nearly continuous, very thin clay films on faces of peds; strongly acid; diffuse, smooth boundary.

B3t—37 to 65 inches, red (2.5YR 4/8) clay loam; common, medium, distinct, brown (7.5YR 5/4) and few, medium, prominent, very pale brown (10YR 8/3) mottles; very pale brown areas are sandy loam; weak, medium, subangular blocky structure; very firm; many, very thin, patchy clay films on faces of peds; strongly acid.

The A horizon is strongly acid to medium acid; the B horizon is strongly acid. The Ap horizon is reddish-brown, brown, strong-brown, or grayish-brown sandy clay loam or gravelly sandy clay loam 3 to 6 inches thick. The Bt horizon is yellowish-red, red, or dark-red clay loam, sandy clay, or clay mottled with brown in the lower part.

Faceville soils are associated with Grady, Lucedale, Norfolk, Ruston, Saffell, and Sumter soils. They are better drained than Grady soils and for that reason do not have the gray colors typical of those soils. They have more clay in the B horizon than Lucedale, Norfolk, and Ruston soils.

They are finer textured than Saffell soils, which are typically gravelly. They differ from Sumter soils in having a thicker and redder B horizon and in not having lime nodules and an alkaline reaction.

Faceville sandy clay loam, 2 to 5 percent slopes (FaB).—This soil is generally in areas of 10 to 40 acres. Most areas have been terraced. Many rills and shallow gullies have formed. Plowing has exposed the red clayey subsoil midway between terraces and increased the thickness of the surface layer in most areas near the terraces.

Included with this soil in mapping are some areas of soils that have a surface layer of loamy sand or fine sandy loam and small areas where slopes are greater than 5 percent. Also included are small wet depressions on the undulating plateaus.

This soil is well suited to the crops commonly grown in the county. Most fields are irregular in shape and many rows are short, which limits the use of large farm machinery. Some areas can be farmed with adjoining soils in large fields that are well suited to large equipment. The wet spots delay plowing in spring unless surface drainage is provided. If this soil is row cropped, the hazard of erosion is moderate.

Installing and maintaining terraces to dispose of runoff is effective in erosion control. A close-growing crop in the cropping system is also effective. Other important measures are a winter cover crop that can be plowed under, for example, a green manure crop; minimum tillage; contour farming; and deep plowing. Capability unit IIe–11; woodland group 3o1.

Flomaton Series

The Flomaton series consists of excessively drained, hilly soils on uplands. These soils formed in thick beds of unconsolidated gravelly and sandy marine deposits. The native vegetation was pine and scattered, low-quality hardwoods.

In a representative profile the surface layer is very dark grayish-brown gravelly loamy sand to a depth of 3 inches and brown gravelly loamy sand to a depth of 11 inches. The subsurface layer is light yellowish-brown gravelly sand to a depth of 27 inches and reddish-yellow gravelly loamy sand to a depth of 49 inches. The subsoil is yellowish-brown and reddish-yellow gravelly loamy sand streaked with gravelly sand and sandy loam to a depth of 60 inches and brownish-yellow gravelly sandy loam to a depth of 88 inches (fig. 3).

Permeability is rapid, and the available water capacity is very low. The seasonal high water table is below a depth of 72 inches. The organic-matter content is low.

Flomaton soils are suited to woodland and wildlife. They are poorly suited to row crops.

Representative profile of Flomaton gravelly loamy sand in an area of the Flomaton-Shubuta association, hilly, in a moist wooded site; NE¼NW¼SW¼ SE¼ sec. 35, T. 19 N., R. 14 E.

A11—0 to 3 inches, very dark grayish-brown (10YR 3/2) gravelly loamy sand; weak, medium, granular structure; loose; medium acid; clear, wavy boundary.

A12—3 to 11 inches, brown (10YR 4/3) gravelly loamy sand; single grained; loose; strongly acid; gradual, wavy boundary.

A2—11 to 27 inches, light yellowish-brown (10YR 6/4) gravelly sand; single grained; loose; most sand grains uncoated; few spots as large as 5 mm in size bridged and coated with clay; strongly acid; gradual, wavy boundary.

B1&A2—27 to 49 inches, reddish-yellow (7.5YR 6/6) gravelly loamy sand; single grained; very friable to loose; 60 percent of sand grains coated with clay and the rest with A2 material; coated material is concentrated around pebbles; strongly acid; abrupt, smooth boundary.

B21t—49 to 60 inches, 60 percent lamellae of yellowish-brown (10YR 5/8) and reddish-yellow (7.5YR 6/6) gravelly loamy sand; lamellae range from gravelly sand to sandy loam and from ⅛ to 1 inch; single grained; very friable to loose; most sand grains in yellowish-brown lamellae are coated and bridged with clay; strongly acid; gradual, smooth boundary.

B22t—60 to 88 inches, brownish-yellow (10YR 6/6) grav-

Figure 3.—**Profile of Flomaton gravelly loamy sand showing high content of gravel.**

elly sandy loam; very weak, medium, subangular blocky structure; friable; sand grains coated and bridged with clay; strongly acid; gradual boundary.

Gravel content ranges from 35 to 70 percent. The profile is medium acid to very strongly acid throughout. The A1 horizon is brown, very dark grayish-brown, or dark grayish-brown gravelly loamy sand or gravelly sand. The A2 horizon is yellowish-brown, light yellowish-brown, reddish-yellow, or very pale brown gravelly loamy sand or gravelly sand. The B horizon is yellowish-red, yellowish-brown, brownish-yellow, reddish-yellow, or strong-brown lamellae of sand, loamy sand, sandy loam, or sandy clay loam. In places the lamellae are gravelly. They are ordinarily thicker in the lower part of the B horizon and in places grade to a uniform Bt horizon. They occur at a depth of 25 to 50 inches.

The Flomaton soils in Autauga County are mapped only with Faceville, Shubuta, Sumter, Troup, and Vaiden soils. They are at the ends of ridges, on some of the narrow ridgetops, and on steep foot slopes adjacent to Bibb and Myatt soils. In contrast with all other associated soils, they are 35 to 70 percent of gravel, by volume, throughout the profile.

Flomaton-Shubuta association, hilly (FSE).—This mapping unit is on uplands of the Coastal Plain in broad areas of several hundred acres. It is characterized by narrow ridgetops and steep, irregular side slopes. On about 21 percent of the acreage, slopes are more than 25 percent, and on about 15 percent they are less than 8 percent. The mapping unit has a well-defined, branching drainage system, and most areas have small streams that flow the year around.

This mapping unit is about 50 percent Flomaton and similar soils, 28 percent Shubuta and similar soils, and 22 percent soils similar to Bibb, Benndale, Jones, and Lucy soils. Its composition is more variable than that of most others in the county, but has been well enough controlled that reliable interpretations can be made for the purposes for which the soils are likely to be used.

The Flomaton soil is at the ends of ridges and on the lower slopes. It has the profile described as representative of the series.

The Shubuta soil is on the narrow ridgetops and the steep upper side slopes. The surface layer is gravelly sandy loam about 7 inches thick. The subsoil is strong-brown clay loam to a depth of 19 inches and yellowish-red clay loam to a depth of 39 inches. The underlying material is yellowish-brown sandy clay loam to a depth of 56 inches and mottled yellowish-brown and yellowish-red sandy loam and thin layers of sandy clay loam and loamy sand to a depth of 65 inches.

Bibb soils are on the narrow flood plains along streams that flow through the unit. The gently sloping Benndale and Jones soils are around the heads of intermittent streams. The gently sloping Lucy soils are on the higher ridgetops.

Droughtiness, the hazard of erosion, and the slope severely limit the use of this unit. Some of the more gentle slopes have been in row crops in the past. Most of the old fields are too small to permit effective use of row-crop machinery. This unit, however, is suited to woodland and wildlife, and much of it is suited to deep-rooted perennial grasses and legumes. The hazard of erosion is severe during the land preparation needed in establishing hay and pasture crops, but good stands of these sod crops effectively control erosion. The slope restricts use of hay harvesting equipment in some areas. Flomaton soil in capability unit VIIs–14, woodland group 4f2; Shubuta soil in capability unit VIe–15, woodland group 3o1.

Grady Series

The Grady series consists of very poorly drained, depressional and level soils on uplands. These soils formed in thick beds of fine-textured deposits. The native vegetation was mainly gum, oak, and cypress.

In a representative profile the surface layer is very dark gray silt loam 7 inches thick. The subsoil is dark-gray clay to a depth of 23 inches, light brownish-gray clay mottled with dark gray and yellowish red to a depth of 41 inches, and light-gray clay mottled with yellowish brown to a depth of 60 inches.

Permeability is slow to very slow, and the available water capacity is moderate. The organic-matter content is moderate.

These soils respond well to lime and fertilizer. They provide poor traction for farm machinery when wet and form clods and crusts if plowed at other than optimum moisture content. Wetness is the major limitation. Most areas are ponded for several months each year unless artificially drained.

If adequately drained, Grady soils are suited to pasture, woodland, and most row crops. Most of the acreage has been cleared and drained.

Representative profile of Grady silt loam in an area of Grady complex, in a pasture of white clover and fescue; SE¼NW¼NW¼ sec. 11, T. 17 N., R. 13 E.

Ap—0 to 7 inches, very dark gray (N 3/0) silt loam; common, medium, distinct, very dark gray (10YR 3/1) mottles; moderate, fine, granular structure; friable; upper 4 inches is heavy sod of fescue roots; strongly acid; abrupt, smooth boundary.

B21tg—7 to 23 inches, dark-gray (N 4/0) clay; moderate, fine, subangular blocky structure; firm; many clay films on vertical and horizontal faces of peds; strongly acid; gradual, smooth boundary.

B22tg—23 to 41 inches, light brownish-gray (2.5Y 6/2) clay; common, medium, distinct, dark-gray (N 4/0) mottles and many, fine, prominent, yellowish-red (5YR 4/8) mottles; moderate, medium, subangular blocky structure; very firm; many clay films on vertical and horizontal faces of peds; very strongly acid; gradual, smooth boundary.

B3g—41 to 60 inches, light-gray (N 7/0) clay; common, medium, distinct, yellowish-brown (10YR 5/6) mottles; weak, medium, platy structure; very firm; very strongly acid.

The profile is very strongly acid to strongly acid throughout. The Ap horizon is dominantly silt loam or silty clay loam, but in places it is loam. The B2tg horizon is dark-gray, or light brownish-gray sandy clay to clay commonly mottled with yellow, strong brown, yellowish red, and red. The B3g horizon is light gray to gray, is typically distinctly mottled, and contains thin streaks or pockets of sandy loam or sandy clay loam. In places it is uniformly clay.

Grady soils are associated with Faceville, Lucedale, Norfolk, and Ruston soils. They are grayer in the B horizon than any of the associated soils. They have a finer textured B horizon than any of these except Faceville soils.

Grady complex (Gr).—This mapping unit is in level, oval depressions in uplands of the Coastal Plain. It is dominantly Grady soils. In the more pronounced depressions the surface layer, which is recent alluvium washed from adjacent slopes, is 20 to 25 inches thick. Slopes are less than 2 percent.

Most areas are 4 to 8 acres in size, but a few are as

large as 25 acres. Areas of less than 3 acres are identified on the soil map by spot symbols. Included in mapping are small areas of similar soils that have a sandy clay loam subsoil and some areas where the subsoil is less gray.

This unit is not so warm as the adjoining Faceville, Lucedale, Ruston, and Norfolk soils and thus dries more slowly than those soils. If adequately drained, it can be farmed with those soils in large fields that are well suited to the use of large farm machinery.

If adequately drained, this unit is suited to most crops grown in the county. Most undrained areas would be well suited to an underground drainage system, which would remove surface water and eliminate surface ditches across adjoining soils. Green manure crops help in maintaining the supply of organic matter. They also improve soil tilth and help the soil to dry in spring. Proper use of crop residue is also important. Capability unit IVw–11; woodland group 2w9.

Harleston Series

The Harleston series consists of moderately well drained, level to gently sloping soils on stream terraces. These soils formed in thick beds of unconsolidated loamy stream deposits. The native vegetation was pine, gum, and hardwoods.

In a representative profile the surface layer is dark grayish-brown loamy fine sand 7 inches thick. The subsoil is light olive-brown fine sandy loam to a depth of 14 inches; light olive-brown fine sandy loam mottled with yellowish brown to a depth of 19 inches; light olive-brown sandy clay loam mottled with light brownish gray, strong brown, and yellowish red to a depth of 33 inches; and mottled gray, yellowish-brown, strong-brown, and red sandy clay loam to a depth of 65 inches.

Permeability is moderate, and the available water capacity is moderate to high. The seasonal high water table is at a depth of about 24 inches. The organic-matter content is low.

These soils respond well to lime and fertilizer. They have good tilth and can be worked throughout a wide range in moisture content without clodding or crusting. When wet, they provide poor traction and support for farm machinery.

Harleston soils are well suited to row crops, pasture, woodland, and wildlife. Most of the acreage is cleared, but a small part is in woodland.

Representative profile of Harleston loamy fine sand, in a bahiagrass pasture 3 miles west of Prattville; NW¼NE¼SE¼ sec. 24, T. 17 N., R. 15 E.

Ap—0 to 7 inches, dark grayish-brown (10YR 4/2) loamy fine sand; weak, fine, granular structure; very friable; many grass roots; very strongly acid; clear, wavy boundary.

B1—7 to 14 inches, light olive-brown (2.5Y 5/4) fine sandy loam; weak, medium, subangular blocky structure; very friable; common grass roots; very strongly acid; gradual, smooth boundary.

B21t—14 to 19 inches, light olive-brown (2.5Y 5/4) fine sandy loam; common, fine, faint, yellowish-brown (10YR 5/8) mottles; weak, medium, subangular blocky structure; friable; few grass roots; few, thin, patchy clay films on faces of peds; very strongly acid; gradual, smooth boundary.

B22tg—19 to 33 inches, light olive-brown (2.5Y 5/6) sandy clay loam; common, medium, distinct, light brownish-gray (2.5Y 6/2), strong-brown (7.5YR 5/6), and yellowish-red (5YR 4/6) mottles; weak, medium, subangular blocky structure; firm; few, very thin, patchy clay films on faces of peds; very strongly acid; diffuse, smooth boundary.

B3—33 to 65 inches, mottled gray (10YR 6/1), yellowish-brown (10YR 5/6), strong-brown (7.5YR 5/8), and red (2.5YR 4/8) sandy loam; weak, coarse, subangular blocky structure; very firm; thin streaks of nearly clean sand between some peds; very strongly acid.

The profile is very strongly acid to strongly acid throughout. The A horizon is 6 to 12 inches thick. The Ap horizon is grayish brown, dark grayish brown, or very dark grayish brown. The B horizon is yellowish brown to light olive brown and is mottled with strong brown, yellowish red, and gray. It ranges from loam to sandy loam in the upper part and from sandy loam to sandy clay loam in the lower part.

Harleston soils are associated with Benndale and Rains soils. In contrast with Benndale soils, they are mottled with gray in the lower part of the B horizon. They are better drained than Rains soils and are not so gray in the subsoil.

Harleston loamy fine sand (Ha).—This soil is generally in areas of 25 to 100 acres. Slopes are less than 2 percent. On about one-third of this unit, the surface layer is fine sandy loam. Included in mapping are small depressions and poorly defined drainageways that are ponded during periods of high rainfall. Wetness in these depressions delays spring plowing unless surface drainage is provided. Also included are areas where the subsoil is more clayey and areas where the soil is well drained.

This soil is not so warm as the adjoining Benndale soils and for this reason is slower to dry. If adequate surface drainage is provided, areas of this soil can be farmed with the adjoining soils in large fields in which large farm equipment can be used effectively. Wetness is the major limitation, but sometimes moisture deficiency is a limitation in summer.

This soil is well suited to the crops commonly grown in the county. Adequate surface drainage greatly increases the suitability of this soil for crops in most areas, but in some areas it is hard to find outlets for drainage systems. Green manure crops help in maintaining the level of organic matter and in drying the soil in spring. Proper use of crop residue is also important. Capability unit IIw–13; woodland group 2w8.

Jones Series

The Jones series consists of well-drained, sloping to hilly soils on uplands and foot slopes. These soils formed in thick beds of unconsolidated loamy marine deposits. The native vegetation was pine and scattered, low-quality hardwoods.

In a representative profile the surface layer is 8 inches of dark-brown sandy loam over 4 inches of brown loamy sand. The subsoil is sandy loam; it is reddish brown to a depth of 17 inches, red to a depth of 43 inches, and dark red to a depth of 52 inches. The underlying material to a depth of 73 inches is red loamy sand that contains a few mica flakes.

Permeability is moderately rapid to a depth of 52 inches and rapid below. The available water capacity is low to moderate. The seasonal high water table is below

a depth of 72 inches. The organic-matter content is low.

These soils are suited to deep-rooted perennial hay and pasture crops. Because fields are small and slopes are strong, these soils are not well suited to row crops. Much of the acreage has been cleared, but many old fields have reverted to pine.

Representative profile of Jones sandy loam, in an area of the Jones-Lucedale-Shubuta complex, 10 to 25 percent slopes, three-fourths of a mile northeast of White Water Lake; SW¼NE¼NW¼SE¼ sec. 9, T. 18 N., R. 14 E.

Ap—0 to 8 inches, dark-brown (7.5YR 3/2) sandy loam; weak, fine, granular structure; very friable; common fine roots; slightly acid; clear, smooth boundary.

A2—8 to 12 inches, brown (7.5YR 4/4) loamy sand; single grained; very friable; common fine roots; slightly acid; gradual, smooth boundary.

B1—12 to 17 inches, reddish-brown (5YR 4/3) sandy loam; weak, medium, subangular blocky structure; friable; few fine roots; common sand grains coated and bridged with clay; slightly acid; gradual, smooth boundary.

B2t—17 to 43 inches, red (2.5YR 4/6) sandy loam; weak, medium, subangular blocky structure; very friable; few fine roots; most sand grains coated and bridged with clay; slightly acid; diffuse, smooth boundary.

B3—43 to 52 inches, dark-red (2.5YR 3/6) sandy loam; weak, medium, subangular blocky structure; very friable; medium acid; diffuse, smooth boundary.

C—52 to 73 inches; red (10YR 5/8) loamy sand; single grained; loose; few fine flakes of mica; medium acid.

The A horizon is slightly acid or medium acid, and the B and C horizons are strongly acid to slightly acid. The A horizon is dark-brown or dark reddish-brown sandy loam, fine sandy loam, or loamy sand. The B1 horizon is red or reddish-brown sandy loam or fine sandy loam. The B2t and B3 horizons are dark-red, red, or yellowish-red sandy loam or sandy clay loam. The C horizon is red, yellowish red, or reddish yellow.

The Jones soils in Autauga County are mapped only with Shubuta and Lucedale soils. They occupy concave slopes around the heads of intermittent streams and on the long, smooth foot slopes. They differ from the Shubuta and Lucedale soils in having less clay in the B horizon.

Jones-Lucedale-Shubuta complex, 10 to 25 percent slopes (JcE).—This strongly sloping to moderately steep mapping unit is on uplands of the Coastal Plain. It is about 30 percent Jones soil, 30 percent Lucedale soil, and 25 percent Shubuta soil. The rest is mainly Pine Flat, Lucy, Ruston, and Troup soils. The dominant soils occur in each mapped area. Included in mapping are a few small areas of soils, similar to the Shubuta soil, that have slopes of more than 25 percent.

The Jones soil has the profile described as representative of the series. The profile of the Lucedale soil differs from the one described as representative of the series in having a dark reddish-brown surface layer about 6 inches thick; the subsoil is dark-red clay loam to a depth of 55 inches and dark-red sandy clay loam to a depth of 70 inches. The Shubuta soil is described under the heading "Shubuta Series."

The Jones soil is on smooth foot slopes and around the heads of intermittent streams. The Lucedale soil is on ridgetops and upper slopes. The Shubuta soil is on the steeper midslopes. Pine Flat, Lucy, Ruston, and Troup soils are on some of the more gentle foot slopes. A few deep, caving gullies cross most large areas of this mapping unit.

This mapping unit is not well suited to row crops. The strong slopes, rapid runoff, and severe hazard of erosion are severe limitations. Many of the ridgetops and some of the more gentle foot slopes have been row cropped, but most of these old fields have reverted to pine. Much of the acreage is under residential development. The unit is suited to deep-rooted perennial hay and pasture crops. It is also suited to woodland and wildlife. Capability unit VIe–15; woodland group 2o1.

Jones-Shubuta association, hilly (JSE).—This mapping unit is on uplands of the Coastal Plain in broad areas, many of which are several thousand acres in size. It is characterized by high, narrow ridgetops that break to steep side slopes, which become more gentle and uniform at low elevations. About 60 percent of the unit has slopes of 8 to 25 percent, 20 percent has slopes of more than 25 percent, and 20 percent has slopes of less than 8 percent. Most areas have streams that flow the year around.

The mapping unit is about 45 percent Jones and similar soils and about 40 percent Shubuta and similar soils. The rest is Bibb, Lucedale, Ruston, and Troup soils. The composition of this mapping unit is more variable than that of most others in the county, but has been controlled well enough that reliable interpretations can be made for the purposes for which the soils are likely to be used.

The Jones soil and the Shubuta soil have profiles similar to those described as representative of their respective series.

The Jones soil is on the more gentle and more uniform foot slopes. The Shubuta soil is steep and borders the ridgetops and plateaus and some of the larger streams that flow through the survey area. Bibb soils are on flood plains of streams. Lucedale, Ruston, and Troup soils are on upper slopes and ridgetops.

This mapping unit is suited to pasture, hay, woodland, and wildlife. Slope, droughtiness, runoff, and the hazard of erosion limit its use. Some of the more gentle slopes have been row cropped, but most of these old fields are too small to permit effective use of machinery. Slope restricts use of hay harvesting equipment in some areas. The hazard of erosion is severe during the land preparation needed in establishing hay and pasture crops. Good stands of deep-rooted perennial grasses and legumes effectively control erosion. Jones soil in capability unit VIe–13, woodland group 2o1; Shubuta soil in capability unit VIe–15, woodland group 3o1.

Lakeland Series

The Lakeland series consists of excessively drained, level to gently sloping soils on stream terraces. These soils formed in thick beds of unconsolidated fluvial sand deposits. The native vegetation was mainly pine and low-quality hardwoods.

In a representative profile the surface layer is dark-brown loamy sand 7 inches thick. The underlying material is yellowish-brown sand to a depth of 18 inches and brownish-yellow sand to a depth of 82 inches. Permeability is rapid, and the available water capacity is low. The seasonal high water table is below a depth of 72 inches. The organic-matter content is low.

These soils respond well to lime but are leached of applied potash and nitrogen. They can be worked

throughout a wide range in moisture content without clodding or crusting. When dry, they provide poor traction for farm machinery.

Representative profile of Lakeland loamy sand, 0 to 5 percent slopes, 4 miles south of Forester; SW¼NW¼SW¼SW¼ sec. 8, T. 16 N., R. 15 E.

Ap—0 to 7 inches, dark-brown (10YR 3/3) loamy sand; very weak, fine, granular structure; very friable; few fine flakes of mica; very strongly acid; abrupt, wavy boundary.

C1—7 to 18 inches, yellowish-brown (10YR 5/8) sand; single grained; loose; few fine flakes of mica; very strongly acid; diffuse, smooth boundary.

C2—18 to 82 inches, brownish-yellow (10YR 6/6) sand; single grained; loose; few fine flakes of mica; very strongly acid; diffuse, smooth boundary.

The profile is very strongly acid to strongly acid throughout. The Ap horizon ranges from brown to grayish brown and dark brown. The C1 horizon is strong brown to yellowish brown. The C2 horizon is yellowish brown, pale brown, pale yellow, brownish yellow, or reddish yellow. Sandy material extends to a depth of more than 80 inches.

Lakeland soils are associated with Blanton, McQueen, and Wickham soils. They are more sandy in the 40- to 80-inch layer than Blanton soils, and are coarser throughout than McQueen and Wickham soils.

Lakeland loamy sand, 0 to 5 percent slopes (LaB).—This level to gently sloping soil is ordinarily at the highest positions on low stream terraces, and it is subject to infrequent flooding. Slopes are dominantly less than 3 percent. Most areas are broad and are more than 40 acres in size.

This soil has the profile described as representative of the series. Included in mapping are spots of Blanton and Wickham soils. Also included are a few areas where slopes are greater than 5 percent.

This soil is suited to hay, pasture (fig. 4), and woodland. It is deficient in moisture for row crops in most years, but watermelons, winter grain, and certain varieties of lespedeza and clover can be grown successfully.

Drought-resistant varieties of cultivated crops should be planted. Split application of fertilizer reduces the hazard of leaching. Green manure crops and crop residue help in maintaining the level of organic matter and improve available water capacity. Capability unit IVs–14; woodland group 4s3.

Lakeland soils, frequently flooded (Lb).—This mapping unit is in long, narrow areas along large creeks in the western half of the county. Most areas are flooded several times each year. The terrain is rough, and many short slopes are strongly sloping to vertical, varying in elevation by as much as 20 feet within short horizontal distances. The creeks change course frequently, resulting in many old, shallow channels and oxbows. Most of these old channels are dry except during heavy rains.

The surface layer is grayish-brown loamy sand 7 inches thick. The underlying material is yellowish-brown sand to a depth of 51 inches and pale-yellow sand containing rounded gravel to a depth of 65 inches.

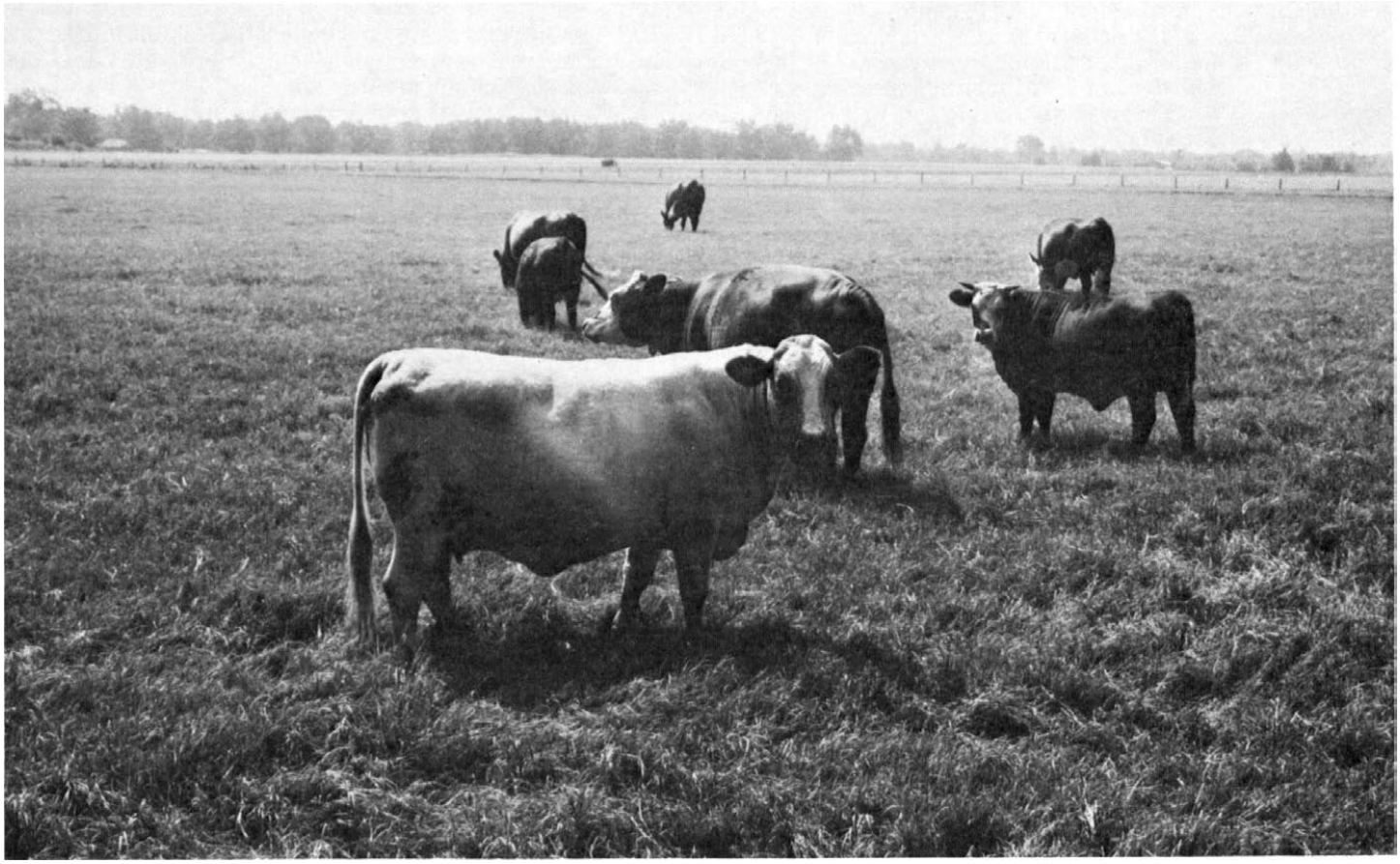

Figure 4.—Pasture of Coastal bermudagrass on Lakeland loamy sand, 0 to 5 percent slopes.

This mapping unit is about 65 percent Lakeland soils and similar soils that have gravelly substrata; the rest of the soils are stratified with sandy loam or are less well drained. The pattern and extent of these soils vary.

Included with these soils in mapping are many small areas of soil similar to Wickham soils, which are at the highest elevations in the unit. Also included are small areas of a poorly drained sandy soil that has a high water table.

The hazard of flooding is severe during short periods after heavy rains. Moisture is deficient during short dry periods in most areas. Scouring by floodwater and the deposition of sediment also limit the use of the soils. Most of the acreage is in low-quality hardwoods, pine, and gum. A few areas are in low-yielding pasture. The unit is suited to woodland, wildlife, and recreation. Capability unit Vw–14; woodland group 4s3.

Lucedale Series

The Lucedale series consists of well-drained, nearly level to sloping soils on uplands. These soils formed in thick beds of unconsolidated loamy marine deposits. The native vegetation was pine and scattered hardwoods.

In a representative profile the surface layer is dusky-red fine sandy loam about 9 inches thick. The subsoil is dark-red clay loam to a depth of 36 inches and dark-red sandy clay loam to a depth of 94 inches.

Permeability is moderate, and the available water capacity is moderate to high. The seasonal high water table is below a depth of 72 inches. The organic-matter content is low. There is no restriction to root penetration unless a trafficpan has formed.

Lucedale soils respond well to lime and fertilizer. They are well suited to row crops, pasture, woodland, and wildlife. Most of the acreage is cleared, but a small part is wooded.

Representative profile of Lucedale fine sandy loam, 0 to 2 percent slopes, in a moist area in the Prattville Experimental Field; SW¼SE¼NW¼ sec. 27, T. 17 N., R. 16 E.

Ap—0 to 9 inches, dusky-red (2.5YR 3/2) fine sandy loam; weak, fine, granular structure; very friable; medium acid; abrupt, smooth boundary.

B21t—9 to 24 inches, dark-red (2.5YR 3/6) clay loam; weak, medium, subangular blocky structure; friable; few patchy clay films; strongly acid; diffuse, smooth boundary.

B22t—24 to 36 inches, dark-red (2.5YR 3/6) clay loam; weak, medium, subangular blocky structure; friable; few patchy clay films; strongly acid; diffuse, smooth boundary.

B23t—36 to 94 inches, dark-red (2.5YR 3/6) sandy clay loam; weak, medium, subangular blocky structure; friable; few patchy clay films; strongly acid.

The Ap horizon is medium acid or slightly acid, and the Bt horizon is very strongly acid or strongly acid. The Ap horizon ranges from very dusky red to dark reddish brown and dark brown and is 4 to 12 inches thick. The B horizon is dark reddish brown, dark red, or dusky red and ranges from sandy loam to clay loam.

Lucedale soils are associated with Faceville, Norfolk, Pine Flat, and Ruston soils. They have less clay in the B horizon than Faceville soils and more clay in the B horizon than Pine Flat soils. They have a darker A horizon and a redder B horizon than Norfolk and Ruston soils.

Lucedale fine sandy loam, 0 to 2 percent slopes (LdA).—This soil is on ridges and plateaus, generally in large areas ranging to several hundred acres in size. It has the profile described as representative of the series. Included in mapping are a few slightly depressed areas where the surface layer is silt loam; these areas are ponded for several hours after heavy rains. Also included is about 800 acres of this soil on the Alabama River terrace where this soil has a sandy layer at a depth of 50 to 70 inches and areas where the upper part of the subsoil is medium acid.

The occurrence of this soil in large areas makes possible large fields that are well suited to the use of farm machinery (fig. 5). The soil has good tilth and can be worked throughout a wide range of moisture content without clodding or crusting. A trafficpan has formed at the lower limit of the plow layer in areas that have been in continuous cultivation for several years. This pan slows the downward movement of water and restricts root penetration. Soil blowing is a hazard if the soil is freshly plowed during periods of strong wind early in spring.

This soil is well suited to all crops grown in the county. Most of the acreage is used for row crops. Green manure crops help in maintaining the level of organic matter and reducing the hazard of soil blowing. Deep plowing and minimum tillage reduce the effects of the trafficpan. Capability unit I–12; woodland group 2o1.

Lucedale fine sandy loam, 2 to 5 percent slopes (LdB).—This soil is on rounded ridgetops and long, uniform side slopes on uplands. Areas are 10 to more than 100 acres in size; they are generally less than a quarter mile wide, but are as much as a mile long. A few deep gullies cross some areas.

Included with this soil in mapping is a small area of a similar soil that has a more clayey subsoil and areas where some layer in the soil is as much as 30 percent gravel. Also included are a few eroded spots where the subsoil is within the normal plow layer. Clods form in these spots unless they are plowed at optimum moisture content.

This soil is well suited to all crops grown in the county. It has good tilth and can be worked throughout

Figure 5.—Young cotton on Lucedale fine sandy loam, 0 to 2 percent slopes.

a wide range of moisture content. The terrain and size of fields are well suited to the use of large farm machinery. If this soil is cultivated, the hazard of erosion is moderate. In areas where runoff is concentrated on the unprotected surface layer, the hazard of deep gullying is severe. Installing and maintaining a disposal system for runoff helps to control erosion. The cropping system should include close-growing crops. Other important management practices are winter cover crops, minimum tillage, proper use of crop residue, and deep plowing.

Most of the acreage is used for crops, hay, and pasture (fig. 6). A few areas in the more hilly part of the county have been planted to pine trees. Capability unit IIe–12; woodland group 2o1.

Lucedale fine sandy loam, 4 to 10 percent slopes, eroded (LdC2).—This rolling soil is on ridgetops and upper side slopes on uplands of the Coastal Plain. Most areas are long and narrow. Rills and shallow gullies have cut through old terraces, and deep gullies cross many areas.

The profile of this soil differs from the one described as representative of the series in having a thinner Ap horizon. Included in mapping are areas of a similar soil that has a more clayey subsoil. Also included are small areas of Faceville, Jones, and Pine Flat soils; spots where the red subsoil has been exposed by erosion; and areas where some layer in the soil is as much as 30 percent gravel.

This soil is suited to hay and pasture. It is not well suited to the use of large machinery in row crop farming, and it is subject to clodding if deep plowed at other than optimum moisture content. The hazard of further erosion is very severe if the soil is cultivated. If cultivated crops are grown, an effective method of erosion control is the installation of a complete drainage system consisting of terraces and permanent sod waterways. A cropping system that includes close-growing crops most of the time is also effective. Other important management practices are winter cover crops, minimum tillage, proper use of crop residue, and deep plowing.

Most of the acreage is used for pasture, hay, and woodland. Some areas are row cropped. Capability unit IVe–12; woodland group 2o1.

Figure 6.—Coastal bermudagrass hay on Lucedale fine sandy loam, 2 to 5 percent slopes.

Lucy Series

The Lucy series consists of well-drained, level to gently sloping soils on uplands. These soils formed in thick beds of unconsolidated marine deposits. The native vegetation was pine and scattered hardwoods.

In a representative profile the surface layer is 14 inches of brown loamy sand over 21 inches of yellowish-red loamy sand. The subsoil is yellowish-red sandy loam to a depth of 42 inches and red sandy loam to a depth of 80 inches.

Permeability is rapid to a depth of about 35 inches and moderate below. The available water capacity is low to moderate. The seasonal high water table is below a depth of 72 inches. The organic-matter content is low.

These soils respond well to lime and fertilizer. They can be worked throughout a wide range of moisture content without clodding or crusting.

Lucy soils are suited to crops, pasture, and woodland. Most of the acreage has been cleared, but has reverted to stands of pine trees.

Representative profile of Lucy loamy sand, 0 to 5 percent slopes, in an idle field 1 mile north of Pleasant Hill Church; SW¼NW¼SE¼SW¼ sec. 19, T. 18 N., R. 16 E.

Ap—0 to 8 inches, brown (10YR 4/3) loamy sand; very weak, fine, granular structure; very friable; strongly acid; clear, smooth boundary.

A2—8 to 14 inches, brown (7.5YR 4/4) loamy sand; very weak, fine, granular structure; very friable; strongly acid; gradual, smooth boundary.

A3—14 to 35 inches, yellowish-red (5YR 4/6) loamy sand; very weak, medium, subangular blocky structure; very friable; strongly acid; gradual, smooth boundary.

B1—35 to 42 inches, yellowish-red (5YR 4/8) sandy loam; very weak, medium, subangular blocky structure; very friable; sand grains coated and bridged with clay; strongly acid; gradual, smooth boundary.

B2t—42 to 80 inches, red (2.5YR 4/8) sandy loam; weak, medium, subangular blocky structure; friable; sand grains coated and bridged with clay; strongly acid.

The profile is very strongly acid to strongly acid throughout. The Ap horizon is grayish brown, dark grayish brown, or brown. The A2 horizon is brown, yellowish brown, or strong brown. The B1 horizon is yellowish red or red. The B2 horizon is yellowish red or red and ranges from sandy loam to clay loam.

Lucy soils are associated with Alaga, Jones, Pine Flat, Ruston, and Troup soils. They differ from Alaga soils in having a Bt horizon at a depth of 20 to 40 inches. They have a sandier and thicker A horizon than Jones, Pine Flat, and Ruston soils. They have a thinner A horizon than Troup soils.

Lucy loamy sand, 0 to 5 percent slopes (LhB).—This soil generally occurs in areas of 10 to 40 acres. Old terraces and shallow gullies are rough surface features in many areas.

Included in mapping are areas of Ruston, Norfolk, Troup, Blanton, and Pine Flat soils. Also included are a few small areas where slopes are greater than 5 percent.

This soil is suited to pasture and hay. Winter-grown small grain and early spring truck crops also can be grown on this soil. Moisture deficiency and leaching of fertilizers are the major limitations if this soil is used for row crops.

Drought-resistant varieties of row crops should be planted. A split application of nitrogen reduces the

hazard of leaching. Green manure crops and crop residue help in maintaining the level of organic matter and improve available water capacity. Capability unit IIs–14; woodland group 3s2.

McQueen Series

The McQueen series consists of well-drained, nearly level soils on low stream terraces. These soils formed in fine-textured to medium-textured stream deposits. The native vegetation was pine and hardwoods.

In a representative profile the surface layer is brown silt loam about 8 inches thick. The subsoil is yellowish-red silty clay to a depth of 34 inches and mottled strong-brown and yellowish-red clay loam to a depth of 56 inches. The underlying material to a depth of 70 inches is strong-brown sandy clay loam.

Permeability is moderate in the surface layer, slow in the upper part of the subsoil, and moderate below a depth of 34 inches. The available water capacity is moderate to high. The seasonal high water table is below a depth of about 72 inches. The organic-matter content is low.

These soils respond well to lime and fertilizer. They have good tilth if worked at optimum moisture content, but form clods or crusts if dry or wet. A trafficpan forms at the lower limits of the plow layer in areas that have been cultivated for several consecutive years. This pan restricts root and water penetration. Almost all the acreage has been cleared and is used for crops.

Representative profile of McQueen silt loam, in a moist cultivated field 800 yards west of the north end of bridge crossing Alabama River on U.S. Highway 31; SW¼SW¼NW¼ sec. 36, T. 17 N., R. 16 E.

Ap—0 to 8 inches, brown (7.5YR 4/4) silt loam; weak, fine, granular structure; friable; some mixing of yellowish-red material from B horizon; slightly acid; abrupt, smooth boundary.

B21t—8 to 20 inches, yellowish-red (5YR 4/6) silty clay; strong, medium, subangular blocky structure; firm, nearly continuous, very thin clay films on faces of all peds; few fine flakes of mica; strongly acid; gradual, smooth boundary.

B22t—20 to 34 inches, yellowish-red (5YR 5/8) silty clay; strong, medium, subangular blocky structure; firm; nearly continuous, very thin red (2.5YR 5/8) clay films on faces of most peds; common streaks and thin splotches of black coatings; common fine flakes of mica; strongly acid; gradual, smooth boundary.

B3t—34 to 56 inches, coarsely mottled strong-brown (7.5YR 5/6) and yellowish-red (5YR 5/8) clay loam; moderate, medium, subangular blocky structure; firm; thin, patchy, red (2.5YR 5/8) clay films on faces of most peds; common black streaks; few, soft, black concretions; many fine flakes of mica; strongly acid; diffuse, smooth boundary.

C—56 to 70 inches, strong-brown (7.5YR 5/6) sandy clay loam; massive; friable; many flakes of mica; strongly acid.

The profile is very strongly acid to strongly acid, except in the surface layer where the soil has been limed. Mica flakes are common in all horizons, and the amount and size increase with increasing depth. The A horizon is brown or dark grayish brown. The B21t horizon is yellowish red or red. The B22t horizon is strong-brown, yellowish-red, or red clay loam, silty clay loam, silty clay, or clay. The B3 horizon ranges from sandy loam to silty clay loam and is mottled with shades of brown, red, and gray. In most places the B horizon has black or brown ped coatings and soft, dark-brown concretions. The C horizon is strong brown, yellowish brown, or yellow. It ranges from loamy sand to clay loam and is commonly stratified.

McQueen soils are associated with Altavista, Lakeland, Roanoke, and Wickham soils. They have a finer textured B horizon and are better drained than Altavista soils. They are finer textured throughout than Lakeland soils. They have a finer textured B horizon than Wickham soils.

McQueen silt loam (Mc).—This soil occurs in broad areas of 40 to about 200 acres. It is dominantly level, but in places the gradient is up to 2 percent. Included in mapping are many oblong depressions and long, narrow, poorly defined drainageways that are ponded during wet seasons and after summer rains. This soil dries slowly after rain because both runoff and permeability are slow.

This soil is well suited to the crops commonly grown in the county. It is subject to occasional overflow, mainly late in winter and early in spring. Winter crops are damaged about 1 year in 10 by flooding. In most areas fields are large enough to be well suited to the use of large farm machinery. Ponded areas require drainage before they can be farmed with adjacent soils in large fields.

Spring planting should normally be 10 to 14 days later than for upland soils to allow the soil to dry and to reduce the hazard of poor germination and cold damage to young crops. Green manure crops help the soil to dry in the spring, improve soil tilth, help in maintaining the level of organic matter, and protect the soil against scouring by floodwater. Minimum tillage reduces the effect of the trafficpan. Proper use of crop residue is also important. Capability unit I–35; woodland group 3o7.

Myatt Series

The Myatt series consists of poorly drained, nearly level soils on low stream terraces. These soils formed in unconsolidated beds of medium to moderately fine textured, marine or stream sediment. The native vegetation was gum, hardwoods, and pine.

In a representative profile the surface layer is very dark gray fine sandy loam 5 inches thick. The subsoil is gray sandy loam to a depth of 17 inches and gray sandy clay loam mottled with strong brown to a depth of 41 inches. The underlying material to a depth of 60 inches is gray sandy loam.

Permeability is moderately rapid to a depth of 17 inches, moderate to a depth of 41 inches, and moderately rapid to a depth of 60 inches. The available water capacity is low to moderate. The seasonal high water table is at the surface. The organic-matter content is moderate.

These soils are not suited to row crops and pasture unless drained. They are suited to woodland and wildlife.

Representative profile of Myatt fine sandy loam, in an area of the Myatt-Bibb association; SW¼SE¼SW¼ sec. 33, T. 18 N., R. 14 E.

A1—0 to 5 inches, very dark gray (10YR 3/1) fine sandy loam; weak, fine, granular structure; very friable; very strongly acid; abrupt, smooth boundary.

B1tg—5 to 17 inches, gray (10YR 6/1) sandy loam; many fine, distinct, strong-brown (7.5YR 5/6) mottles; weak, medium, subangular blocky structure; friable; very strongly acid; gradual smooth boundary.

B2tg—17 to 41 inches, gray (10YR 6/1) sandy clay loam;

many, fine, distinct, strong-brown (7.5YR 5/6) mottles; weak, medium, subangular blocky structure; few patchy clay films on faces of peds; friable; very strongly acid; gradual, smooth boundary.

C—41 to 60 inches; gray (N 6/0) sandy loam; massive; friable; about 3 percent small quartz pebbles; very strongly acid.

The profile is strongly acid to very strongly acid throughout. The A horizon is silt loam, loam, fine sandy loam, or loamy sand. The B1tg and B2tg horizons are gray or light gray and have distinct brownish mottles. The C horizon is uniformly gray or gray mottled with shades of yellow, strong brown, or yellowish red. It ranges from sandy loam through stratified sand, loamy sand, sandy loam, and sandy clay loam to thick beds of nearly clean sand and gravel. The C horizon is at a depth of 35 to 60 inches.

The Myatt soils in Autauga County are mapped only with Bibb and Rains soils. They are in higher positions than Bibb soils. Also, they are finer textured and do not have the evident stratification typical of Bibb soils. They have a thinner B horizon than Rains soils.

Myatt-Bibb association (MY).—This mapping unit is on first bottoms and low stream terraces in areas ¼ to 1¼ mile wide and up to 20 miles long. It is characterized by low, nearly level stream terraces and nearly level first bottoms that contain many old stream channels and have uneven surface features caused by floodwater scouring and uneven sediment deposits.

This mapping unit is about 45 percent Myatt and similar soils, 37 percent Bibb and similar soils, and 18 percent soils similar to Altavista, Benndale, Harleston, and Wickham soils. Its composition is more variable than that of most others in the county, but it has been well enough controlled that reliable interpretations can be made for the purposes for which the soils are likely to be used.

The Myatt soil is on low terraces. It has the profile described as representative of the series. The Bibb soil is on first bottoms. It has a surface layer of very dark grayish-brown loam 6 inches thick. The underlying material is stratified loamy sand, sandy loam, and loam that is dominantly gray.

The soils similar to Altavista, Benndale, Harleston, and Wickham soils, which are in the higher parts of the mapping unit, are the better drained. The moderately well drained and well drained soils similar to the Bibb soil are on the first bottom adjacent to the stream channel.

The Bibb soil is frequently flooded, and the Myatt soil is flooded about once a year, usually during the winter or early in spring. The high water table and hazard of flooding severely limit the use of these soils. If protected from flooding and adequately drained, the soils are suited to crops and pasture. They are suited to woodland and wildlife. Myatt soil in capability unit IVw–16, woodland group 2w9; Bibb soil in capability unit Vw–13, woodland group 2w9.

Norfolk Series

The Norfolk series consists of well-drained, nearly level to sloping soils on uplands. These soils formed in thick beds of unconsolidated loamy marine deposits. The native vegetation was pine and scattered hardwoods.

In a representative profile the surface layer is brown loamy fine sand 9 inches thick. The subsoil is dark yellowish-brown sandy loam to a depth of 15 inches and yellowish-brown sandy clay loam to a depth of 83 inches.

Permeability is moderate, and the available water capacity is low to moderate. The seasonal high water table is below a depth of 72 inches. The organic-matter content is low. Roots are not restricted except where a trafficpan has formed.

These soils respond well to lime and fertilizer. They have good tilth and can be worked throughout a wide range of moisture content without clodding.

Norfolk soils are well suited to row crops, pasture, woodland, and wildlife. Most of the acreage has been cleared, but a small part is wooded.

Representative profile of Norfolk loamy fine sand, 0 to 2 percent slopes, 3½ miles southwest of Autaugaville; SE¼NW¼SW¼ sec. 7, T. 16 N., R. 14 E.

Ap—0 to 9 inches, brown (10YR 4/3) loamy fine sand; very weak, fine, granular structure; very friable, strongly acid; abrupt, smooth boundary.

B1—9 to 15 inches, dark yellowish-brown (10YR 4/4) sandy loam; weak, fine, subangular blocky structure; very friable; common dark-brown (7.5YR 3/2) organic stains; few, small, soft, concretions of iron or manganese; sand grains coated and bridged with clay; strongly acid; gradual, smooth boundary.

B2t—15 to 64 inches, yellowish-brown (10YR 5/8) sandy clay loam; weak, fine, subangular blocky structure; friable; few, soft, dark-brown concretions of iron or manganese; few, thin, patchy clay films on faces of peds; strongly acid; diffuse, smooth boundary.

B3—64 to 83 inches, yellowish-brown (10YR 5/8) sandy clay loam; very weak, medium, subangular blocky structure; very friable; sand grains coated and bridged with clay; few fine flakes of mica; becomes coarser with depth; strongly acid.

The profile is very strongly acid to strongly acid throughout. The Ap horizon ranges from grayish brown to brown or very dark grayish brown and from loamy fine sand to fine sandy loam. It is 6 to 11 inches thick. The B horizon is dark yellowish brown and yellowish brown and in places is mottled with strong brown, pale brown, yellowish red, and gray in the lower part. This horizon is sandy loam, sandy clay loam, or clay loam.

Norfolk soils are associated with Blanton, Grady, Lucedale, and Ruston soils. Norfolk soils have a thinner A horizon than Blanton soils. Also, they are better drained and do not have the gray color typical of those soils. They have a coarser textured B horizon than Grady soils, and do not have the gray color typical of those soils. Their B horizon is less red than that of Lucedale and Ruston soils.

Norfolk loamy fine sand, 0 to 2 percent slopes (NfA).—This nearly level soil is on ridges and plateaus. It is generally not in large areas. It has the profile described as representative of the series. Included in mapping in some areas are slightly depressed spots that are ponded for several hours after heavy rain. Unless drained, these wet depressions delay spring plowing.

The occurrence of this soil with other soils that have similar characteristics makes possible large fields that are suited to farm machinery. A trafficpan has formed at the lower limits of the plow layer in many places. This pan slows the penetration of roots and water. The hazard of soil blowing is moderate when the large fields are freshly plowed early in spring.

This soil is well suited to all crops grown in the county. Most of the acreage is used for row crops. Green manure crops help in maintaining the level of organic matter and reduce the hazard of soil blowing. Deep plowing and minimum tillage reduce the effects

of the trafficpan. Capability unit I–12; woodland group 2o1.

Norfolk fine sandy loam, 2 to 5 percent slopes (NkB).—This soil is on the rounded tops and gentle sides of ridges on uplands, mainly in areas of less than 30 acres.

The profile of this soil differs from the one described as representative of the series in having a surface layer of fine sandy loam. Included in mapping is a small acreage where the subsoil is more clayey and mottles are at a depth of 30 to 50 inches. Also included are small eroded spots where the yellowish subsoil is within the normal plow layer. Clods form in these eroded spots when the soil is plowed at other than optimum moisture content.

The occurrence of this soil with other soils that have similar characteristics makes possible large fields in which large farm machinery can be used effectively. This soil is suited to all crops commonly grown in the county. Most of the acreage is used for crops and pasture. A few areas in the hilly part of the county have been planted to pine trees. The hazard of erosion is moderate in cultivated areas.

An effective method of erosion control is the installation and maintenance of runoff water disposal systems. A cropping system that includes close-growing crops is also effective. Also important in management are winter cover crops, minimum tillage, proper use of crop residue, contour farming, and deep spring plowing. Capability unit IIe–12; woodland group 2o1.

Norfolk fine sandy loam, 5 to 8 percent slopes (NkC).—This soil is on uplands, in irregularly shaped areas generally of 10 to 40 acres. The profile of this soil differs from the one described as representative of the series in having a thinner surface layer of fine sandy loam and an upper subsoil of clay loam. Included in mapping are many small eroded spots where the clay loam subsoil is within normal plow depth. These eroded spots are subject to severe clodding if the soil is plowed at other than optimum moisture content.

This soil is generally not suited to large machinery used for row crops. It is suited to hay, pasture, and woodland. It is used mainly for pasture, hay, winter grain, and woodland. Some areas are row cropped. The hazard of erosion is severe in cultivated areas.

An effective method of erosion control is the installation and maintenance of a complete water disposal system consisting of terraces and permanent sod waterways. A cropping system that includes close-growing crops most of the time is also effective. Other important management practices are contour farming, winter cover crops, minimum tillage, proper use of crop residue, and deep plowing. Capability unit IIIe–12; woodland group 2o1.

Ochrepts

Ochrepts are well-drained, level to moderately steep soils on the flood plains of the Alabama River. These soils formed in thick beds of recently deposited loamy stream alluvium. The native vegetation was mixed stands of high-quality gum and hardwoods.

In a representative profile the surface layer is dark-brown loam 6 inches thick. The subsoil is brown silty clay loam to a depth of 26 inches and dark-brown silty clay loam to a depth of 58 inches. The underlying material to a depth of 96 inches is dark yellowish-brown loam that contains thin layers of silt loam and sandy loam.

Permeability is moderate, and the available water capacity is high. The seasonal high water table is below a depth of 72 inches. Most of the acreage is flooded, at least once each year. The organic-matter content is moderate. The soils have good tilth and can be worked throughout a fairly wide range of moisture content without clodding or crusting. They respond well to management.

Representative profile of Ochrepts, loamy, 0 to 5 percent slopes, 5 miles south of Prattville; NE¼NW¼ SW¼ sec. 4, T. 16 N., R. 16 E.

Ap—0 to 6 inches, dark-brown (7.5YR 4/2) loam; moderate, fine and medium, granular structure; friable; many fine flakes of mica; medium acid; clear, wavy boundary.

B21—6 to 26 inches, brown (7.5YR 4/4) silty clay loam; moderate, medium and weak, coarse, subangular blocky structure; friable; many fine flakes of mica; strongly acid; gradual, wavy boundary.

B22—26 to 58 inches, dark-brown (10YR 3/3) silty clay loam; weak, coarse, subangular blocky structure; firm; strongly acid; many flakes of mica; gradual, wavy boundary.

C—58 to 96 inches, dark yellowish-brown (10YR 4/4) loam with thin bedding planes of silt loam and sandy loam; massive; friable; many flakes of mica; strongly acid.

The profile is medium acid or strongly acid throughout. The B horizon ranges from brown and dark brown to dark yellowish brown and from loam through silt loam to silty clay loam. The C horizon has bedding planes of silt loam, loam, or sandy loam.

Ochrepts are associated with Altavista, McQueen, and Wickham soils. They are siltier throughout the profile and better drained than Altavista soils. They have a browner and coarser textured B horizon than McQueen soils. They are browner and contain more silt throughout the profile than Wickham soils.

Ochrepts, loamy, 0 to 5 percent slopes (OcB).—This soil has the profile described as representative of Ochrepts. Most areas are 10 to 40 acres in size. Included in mapping are small areas where slopes are greater than 5 percent, small depressions that have a surface layer of silty clay and are ponded during wet periods, and some areas where the surface layer is loam or sandy loam.

The soil is suited to most crops grown in summer. About half the acreage supports good stands of hackberry, gum, poplar, and other high-quality hardwoods. Flood damage is a severe hazard in winter, and flooding sometimes delays spring planting. Capability unit IIw–31; woodland group 1o7.

Ochrepts, loamy, 5 to 25 percent slopes (OcD).—This mapping unit is in long, narrow areas on the banks of the Alabama River and along the larger creeks that flow across the river terrace. It has a profile similar to the one described as representative of the series, but it is shallower to the stratified horizons. There are many, narrow, discontinuous benches separated by slopes ranging from 5 percent to nearly vertical. The parts of this mapping unit that are nearest to the water level of the creeks and river are flooded several times each year. Almost all of the unit is flooded at least once each year. Included in mapping are areas of more sandy soils and areas that are more poorly drained.

The slope and the hazard of flooding make this unit poorly suited to crops and pasture. Most of the acreage is in stands of hackberry, walnut, poplar, oak, gum, and other hardwoods. Trees on the streambank are of low quality and show signs of stress. Many of the trees are subject to uprooting because of undercutting by stream currents. This unit is best suited to woodland, wildlife, and recreation. The surface is slippery and provides poor traction when wet. Capability unit VIIe–31; woodland group 1o7.

Osier Series

The Osier series consists of poorly drained to very poorly drained, nearly level soils on flood plains. These soils formed in recently deposited beds of fluvial alluvium. The native vegetation was forests of gum, oak, and maple and a dense undergrowth of water- and shade-tolerant briers, vines, and shrubs.

In a representative profile the surface layer is 4 inches of very dark gray sandy loam over 4 inches of dark-gray sandy loam. The underlying material is gray, stratified sand and loamy sand to a depth of 27 inches and light brownish-gray stratified sand and loamy sand mottled with light gray and yellowish brown to a depth of 57 inches.

Permeability is moderately rapid, and the available water capacity is low. These soils are frequently flooded for short periods. The seasonal high water table is at a depth of about 12 inches. The organic-matter content is moderate.

Frequent flooding and poor drainage limit the use of Osier soils. The soils are suited to woodland and wildlife. Most of the acreage is wooded. A few small areas are in pasture.

Representative profile of Osier sandy loam in an area of the Osier-Bibb complex, in a thickly wooded area of gum, oak, poplar, ash, maple, bay, and ironwood, 2 miles southwest of Prattville; SW¼NW¼NW¼ sec. 13, T. 17 N., R. 15 E.

A11—0 to 4 inches, very dark gray (10YR 3/1) sandy loam; weak, fine, granular structure; very friable; slightly sticky; many roots, sticks, and leaves; strongly acid; abrupt, smooth boundary.

A12—4 to 8 inches, dark-gray (10YR 4/1) sandy loam; weak, fine, granular structure; very friable; few partly decomposed sticks and limbs; strongly acid; clear, smooth boundary.

C1g—8 to 27 inches, gray (10YR 5/1) thinly stratified sand and loamy sand; massive; very friable; few partly decomposed sticks and twigs; very strongly acid; gradual, wavy boundary.

C2—27 to 57 inches, light brownish-gray (10YR 6/2) stratified sand and loamy sand; many coarse, prominent, light-gray (10YR 7/2) to yellowish-brown mottles (10YR 5/6); massive; very friable; strongly acid; abrupt, smooth boundary.

The profile is very strongly acid to medium acid throughout. Thin bands of silty or loamy material are evident in most places. Some soils have a buried A horizon high in organic-matter content. The A horizon is very dark gray or dark-gray loam, sandy loam, or loamy sand. The C horizon is saturated with water most of the time. It ranges from gray to light brownish gray and is typically mottled with brown and yellow. It ranges from sand to loamy sand.

The Osier soils in Autauga County are mapped with Bibb soils. They differ from Bibb soils in having less clay in the upper 40 inches of the profile.

Osier-Bibb complex (Ok).—This mapping unit is on first bottoms that are frequently flooded, in areas that are less than 1,000 feet wide but several miles long. It is about 45 percent Osier soils, 40 percent Bibb soils, and 15 percent similar wet soils that are finer textured and some that are better drained. Slopes are 0 to 2 percent.

The Bibb soil has a surface layer of very dark grayish-brown loam 6 inches thick. The subsoil is stratified gray loam, sandy loam, and loamy sand that contains partly decomposed leaves, sticks, and other organic matter to a depth of 50 inches.

Both major soils are in each mapped area, but they occur at random in the mapping unit. The better drained soils are in slightly higher positions adjacent to the stream channels. The wet and finer textured soils are on the low stream terraces. Surface features are rough and uneven as a result of cutting by old stream channels, floodwater scouring, and uneven sediment deposits.

This unit is severely limited by poor drainage, a high water table, and frequent flooding. It is suited to water-tolerant timber and wetland wildlife. In many areas beavers have dammed the streams that flow through this unit, causing severe damage to stands of timber (fig. 7). Sedimentation is a problem where large active gullies are in the watershed of the streams that flow through the unit.

Nearly all of the acreage is in dense stands of water-tolerant trees and a thick undergrowth of briers and other water- and shade-tolerant vines and shrubs. Capability unit Vw–13; woodland group 2w9.

Pine Flat Series

The Pine Flat series consists of well-drained, nearly level to gently sloping soils on uplands. These soils formed in thick beds of unconsolidated loamy marine deposits. The native vegetation was pine and scattered hardwoods.

In a representative profile the surface layer is dark-brown sandy loam 8 inches thick. The subsoil is dark reddish-brown sandy loam to a depth of 12 inches, dark-red sandy loam to a depth of 37 inches, dark-red sandy clay loam to a depth of 56 inches, and red sandy loam to a depth of 80 inches.

Permeability is moderately rapid, and the available water capacity is low to moderate. Root and water penetration are not restricted except in areas where a trafficpan has formed. The seasonal high water table is below a depth of 72 inches. The organic-matter content is low.

These soils respond well to lime and fertilizer. They are well suited to row crops, pasture, woodland, and wildlife. Most of the acreage has been cleared.

Representative profile of Pine Flat sandy loam, 0 to 5 percent slopes, 2 miles south of Pleasant Hill Church; NW¼NW¼SW¼ sec. 3, T. 19 N., R. 14 E.

Ap—0 to 8 inches, dark-brown (7.5YR 3/2) sandy loam; weak, fine, granular structure; very friable; medium acid; abrupt, smooth boundary.

B1—8 to 12 inches, dark reddish-brown (2.5YR 3/4) sandy loam; weak, medium, subangular blocky structure; very friable; most sand grains coated and bridged with clay; strongly acid; gradual, smooth boundary.

B21t—12 to 37 inches, dark-red (2.5YR 3/6) sandy loam; weak, medium, subangular blocky structure; fri-

Figure 7.—Beaver dams cause flooding on Osier-Bibb complex.

able; few, very thin, patchy clay films on faces of peds; sand grains well coated and bridged with clay; strongly acid; diffuse, smooth boundary.

B22t—37 to 56 inches, dark-red (2.5YR 3/6) sandy clay loam; weak, medium, subangular blocky structure; friable; few, very thin, patchy clay films on faces of peds; sand grains well coated and bridged with clay; very strongly acid; diffuse, smooth boundary.

B23t—56 to 80 inches, red (2.5YR 4/8) sandy loam; weak, medium, subangular blocky structure; friable; sand grains coated and bridged with clay; very strongly acid.

The profile is very strongly acid to medium acid throughout. The A horizon is dark reddish brown to dark brown. The B1, B21t, and B22t horizons are dark red, dark reddish brown, or dusky red. The B1 and B21t are fine sandy loam, sandy loam, or loam. The B22t and B23t horizons are sandy loam to sandy clay loam. The B23t horizon is dark red.

Pine Flat soils are associated with Lucedale, Lucy, and Ruston soils. They have a coarser textured B horizon than Lucedale and Ruston soils. They do not have the thick A horizon of loamy sand that is typical of Lucy soils.

Pine Flat sandy loam, 0 to 5 percent slopes (PfB).—This level to gently sloping soil occurs as large, broad areas on plateaus and foot slopes. Included in mapping are areas where the surface layer is loamy sand and small areas of soils similar to Lucy, Ruston, and Lucedale soils.

The occurrence of this soil as large areas makes possible large fields that are well suited to the use of farm machinery. The soil has good tilth and can be worked throughout a wide range of moisture content without clodding or crusting. A moderate to severe trafficpan has formed at the lower limit of the plow layer in areas that have been under continuous cultivation for several years. The pan slows the downward movement of water and restricts root penetration. Soil blowing is a hazard if this soil is freshly plowed during periods of strong wind early in spring. The soil is deficient in moisture during the growing season in most years. The hazard of gully erosion is moderate in the gently sloping areas if runoff is concentrated.

This soil is suited to most crops commonly grown in the county. It is well suited to Coastal bermudagrass and winter-grown small grain. Good crop residue management and a green manure crop help in maintaining organic-matter content, reduce the hazard of soil blowing, and increase the available water capacity. Deep plowing and minimum tillage reduce the effect of the trafficpan. Capability unit IIs–13; woodland group 2o1.

Rains Series

The Rains series consists of poorly drained, nearly level soils on stream terraces. These soils formed in

thick beds of unconsolidated stream deposits. The native vegetation was mixed pine, gum, and hardwoods.

In a representative profile the surface layer is 5 inches of very dark gray fine sandy loam over 4 inches of very dark grayish-brown fine sandy loam. The subsoil is light-gray sandy loam to a depth of 16 inches, light-gray sandy clay loam mottled with strong brown to a depth of 28 inches, and gray sandy clay loam mottled with yellowish red and yellowish brown to a depth of 60 inches.

Permeability is moderately rapid to a depth of 16 inches and moderate to a depth of 60 inches. The available water capacity is moderate. The seasonal high water table is within 6 inches of the surface. Much of the acreage is ponded or receives overflow during the winter. The organic-matter content is moderate.

These soils have good tilth and can be worked throughout a wide range of moisture content without clodding or crusting. They provide poor traction and support for farm machinery when wet.

Rains soils are well suited to woodland and wildlife. Most areas require surface drainage if they are used for row crops and pasture. Most large areas are wooded. Many small areas adjacent to better drained soils have been cleared and drained and are cropped.

Representative profile of Rains fine sandy loam, in a densely wooded area 30 feet south of flowing well at the edge of Bear Creek swamp 1 mile northeast of Forester; NE¼NE¼ sec. 19, T. 17 N., R. 15 E.

A11—0 to 5 inches, very dark gray (10YR 3/1) fine sandy loam; weak, fine, granular structure; very friable; strongly acid; gradual, wavy boundary.

A12—5 to 9 inches, very dark grayish-brown (10YR 3/2) fine sandy loam; weak, fine, granular structure; very friable; strongly acid; abrupt, wavy boundary.

B1tg—9 to 16 inches, light-gray (10YR 6/1) sandy loam; many, fine, distinct, yellowish-brown (10YR 5/8) colors around worm and root holes; weak, medium, subangular blocky structure; very friable; sand grains coated and bridged with clay; strongly acid; gradual, wavy boundary.

B21tg—16 to 28 inches, light-gray (10YR 6/1) sandy clay loam; many, fine, distinct, strong-brown (7.5YR 5/6) mottles; weak, medium, subangular blocky structure; friable; many, patchy clay films; strongly acid; gradual, smooth boundary.

B22tg—28 to 60 inches, gray (N 6/0) sandy clay loam; many medium, distinct, yellowish-red (5YR 4/6) and yellowish-brown (10YR 5/8) mottles; weak, medium, subangular blocky structure; firm; common, thin, patchy clay films; strongly acid.

The profile is very strongly acid or strongly acid throughout. The A horizon ranges from dark grayish brown to black. The B1tg horizon is gray or light-gray sandy loam, loam, or sandy clay loam. In places it is mottled. The B2tg horizon is predominantly gray or light gray and is mottled with strong brown, yellowish brown, and yellowish red. This horizon is sandy loam or clay loam.

Rains soils are associated with Altavista, Benndale, Harleston, and Wickham soils. They are grayer throughout the profile and are more poorly drained than Altavista, Benndale, Harleston, and Wickham soils.

Rains fine sandy loam (Ra).—Most of the acreage of this soil is in broad, wooded areas that range from 50 to 300 acres in size. A small acreage is in depressions and poorly defined drainageways of less than 15 acres. Slope is less than 2 percent. Included in mapping are slightly depressed areas that are ponded for several months each year. Sometimes these areas contain water the year around.

Wetness is the major limitation. In most areas drainage outlets are not available. If adequately drained, these soils are suited to most crops commonly grown in the county. They are slow to dry in spring. Poor stands usually result unless spring planting is delayed until the soil has warmed.

Crops should be harvested before the rainy period in fall because the soil provides poor support for harvest equipment when it is wet. Green manure crops help in maintaining the level of organic matter and help the soil to dry in spring. Proper use of crop residue is important. Capability unit IVw–12; woodland group 2w3.

Roanoke Series

The Roanoke series consists of poorly drained, nearly level soils on stream terraces. These soils formed in thick beds of fine-textured stream deposits. The vegetation was mainly hardwoods, gum, cypress, and a few scattered pine.

In a representative profile the surface layer is gray silty clay loam 10 inches thick. The subsoil is light-gray silty clay mottled with strong brown to a depth of 31 inches and mottled light-gray, yellowish-brown, and strong-brown clay to a depth of 54 inches. The underlying material to a depth of 72 inches is brownish-yellow clay mottled with light gray and yellowish red.

Permeability is slow, and the available water capacity is moderate. The seasonal high water table is at or near the surface. Many areas are ponded in winter unless artifically drained. Most areas are subject to overflow from the Alabama River about once in 10 years. Flooding usually occurs in winter. The organic-matter content is moderate.

These soils clod and crust when plowed at other than optimum moisture content. They are suited to woodland, wildlife, and pasture. Surface drainage is needed if they are used for row crops. Most large areas are wooded. Many small areas adjacent to the better drained, level soils have been cleared and drained and are used for row crops.

Representative profile of Roanoke silty clay loam in an area of Roanoke complex, one-half mile west of G.M. & O. Railroad; NW¼NW¼SE¼ sec. 27, T. 17 N., R. 16 E.

Ap—0 to 10 inches, gray (10YR 5/1) silty clay loam; weak, fine, granular structure; friable; strongly acid; clear, smooth boundary.

B21tg—10 to 31 inches, light-gray (5Y 7/1) silty clay; common, fine, prominent, strong-brown (7.5YR 5/8) mottles; weak, medium, subangular blocky structure; firm, few, very thin, patchy clay films on faces of peds; strongly acid; diffuse, smooth boundary.

B22tg—31 to 54 inches, mottled light-gray (5YR 7/1), yellowish-brown (10YR 5/6), and strong-brown (7.5YR 5/8) clay; moderate, medium, subangular blocky structure; very firm; few fine flakes of mica; nearly continuous clay films on faces of peds; very strongly acid; diffuse, wavy boundary.

C—54 to 72 inches, brownish-yellow (10YR 6/6) clay; common, medium, prominent, light-gray (5Y 7/1) mottles and common, fine, distinct, yellowish-red (5YR 4/8) mottles; massive; very firm; many fine flakes of mica; very strongly acid.

The profile is very strongly acid to strongly acid, except where the soil has been limed. The A horizon ranges from

gray to very dark gray. It is loam, silt loam, or silty clay loam 6 to 12 inches thick. The Btg horizon is dominantly light gray or gray and is commonly mottled with yellowish brown, yellowish red, or strong brown. This horizon is silty clay, silty clay loam, or clay loam. The C horizon ranges from brownish yellow to gray and is mottled with red, yellow, and brown.

Roanoke soils are associated with Altavista, McQueen, and Wickham soils. They are more poorly drained than those soils. They have a finer textured B horizon than Altavista and Wickham soils.

Roanoke complex (Ro).—This level to gently undulating mapping unit is in long, narrow depressions adjacent to McQueen and Wickham soils and in broad, undulating areas. It is about 65 percent Roanoke soil, 25 percent McQueen and Wickham soils, and 10 percent soils that are slightly better drained and are less gray in the subsoil than Roanoke soil. Slopes are 0 to 3 percent. In the broad undulating areas, McQueen and similar soils occupy the highest positions in the unit.

If adequately drained, this soil is suited to the crops commonly grown in the county. It is slow to dry in spring. Poor stands usually result unless spring planting is delayed until the soil has warmed. This soil has poor traction for farm equipment when it is wet. Green manure crops help in maintaining the level of organic matter and help the soil to dry in spring. Proper use of crop residue is important. Capability unit IIIw–31; woodland group 2w8.

Ruston Series

The Ruston series consists of well-drained, nearly level to sloping soils on uplands, plateaus, and the tops and upper slopes of ridges. These soils formed in thick beds of unconsolidated loamy marine deposits. The native vegetation was pine and scattered hardwoods.

In a representative profile the surface layer is brown fine sandy loam 8 inches thick. The subsoil is yellowish-red sandy loam to a depth of 17 inches, red clay loam to a depth of 56 inches, and red sandy clay loam to a depth of 72 inches.

Permeability is moderate, and the available water capacity is moderate to high. The seasonal high water table is below a depth of 72 inches. Root penetration is not restricted except in areas where a trafficpan has formed. The organic-matter content is low.

These soils respond well to lime and fertilizer. They are generally well suited to row crops, pasture, woodland, and wildlife. Most of the acreage has been cleared, but a small part is wooded.

Representative profile of Ruston fine sandy loam, 0 to 2 percent slopes, in a moist field of johnsongrass at Pine Flat; NW¼SE¼NE¼ sec. 11, T. 19 N., R 16 E.

Ap—0 to 8 inches, brown (10YR 4/3) fine sandy loam; weak, fine, granular structure; very friable; medium acid; abrupt, smooth boundary.

B1—8 to 17 inches, yellowish-red (5YR 4/8) sandy loam; weak, medium, subangular blocky structure; friable, sand grains coated and bridged with clay; few, small, patchy clay films on faces of peds; strongly acid; diffuse, smooth boundary.

B2t—17 to 56 inches, red (2.5YR 4/8) clay loam; weak, medium, subangular blocky structure; friable, slightly sticky; clay films on vertical and horizontal faces of peds; many fine and medium pores; strongly acid; diffuse, smooth boundary.

B3—56 to 72 inches, red (2.5YR 4/6) sandy clay loam; weak, medium, subangular blocky structure; friable; few fine and medium pores; few patchy clay films on faces of peds; strongly acid.

The Ap horizon ranges from strongly acid to medium acid, and the B horizon from strongly acid to very strongly acid. The Ap horizon ranges from dark grayish brown through grayish brown and brown to reddish brown. It is fine sandy loam or gravelly fine sandy loam 4 to 10 inches thick. The B1 horizon ranges from reddish brown through yellowish red to red and from sandy loam to clay loam. In many places few to many brownish mottles are present below a depth of 40 inches.

Ruston soils are associated with Faceville, Grady, Lucedale, Lucy, Norfolk, Pine Flat, Saffell, and Troup soils. They have a coarser textured B horizon than Faceville soils. They have a redder and coarser textured B horizon than Grady soils. They are not so red in the A and upper part of the B horizon as Lucedale soils. Ruston soils do not have the thick sandy A horizon that is typical of Lucy and Troup soils. They are redder throughout the profile than Norfolk soils. They have a finer textured B horizon than Pine Flat soils. They do not have the gravel content in the A and B horizons that is characteristic of Saffell soils.

Ruston fine sandy loam, 0 to 2 percent slopes (RuA).—This soil is in medium-sized areas on ridgetops and plateaus on uplands. It has the profile described as representative of the series. Included in mapping are slightly depressed spots that have a finer textured surface layer and are ponded for several hours after rain. Wet conditions in some of these depressions delay spring plowing unless surface drainage is provided.

This soil is well suited to all crops grown in the county. Most of the acreage is in row crops. The occurrence of this soil with other soils that have similar characteristics makes possible large fields in which farm machinery can be used effectively. A trafficpan at the lower limits of the plow layer in many places slows the penetration of roots and water. The hazard of soil blowing is moderate when the larger fields are freshly plowed early in spring.

Green manure crops help in maintaining the level of organic matter and reduce the hazard of soil blowing. Deep plowing and minimum tillage reduce the effects of the trafficpan. Capability unit I–12; woodland group 2o1.

Ruston fine sandy loam, 2 to 5 percent slopes (RuB).—This soil is on the rounded tops and long, gently sloping sides of ridges. The slopes are typically smooth and uniform. Most areas are 20 to 80 acres in size. A few deep gullies cross some areas.

Included with this soil in mapping are small areas of Faceville or Lucy soils. Also included are eroded spots where the subsoil is within normal plow depth. Clods form if these spots are plowed at other than optimum moisture content.

This soil is well suited to all crops grown in the county. It has good tilth and can be worked throughout a wide range of moisture content. Most of the acreage is used for crops and pasture. A few areas in the hilly part of the county have been planted to pine trees. Surface features and the occurrence of this soil with other soils having similar characteristics make possible large fields where farm machinery can be used effectively. The hazard of erosion is moderate in cultivated areas.

An effective method of erosion control is the installation and maintenance of water disposal systems. A cropping system that includes close-growing crops is also effective. Other important management practices are winter cover crops, minimum tillage, proper use of crop

residue, contour farming, and deep plowing. Capability unit IIe–12; woodland group 2o1.

Ruston fine sandy loam, 4 to 10 percent slopes, eroded (RuC2).—This soil is on the tops and sides of ridges on rolling uplands of the Coastal Plain. Most areas are long and narrow and 10 to 40 acres in size. Rills and shallow gullies have cut through old terraces; consequently, the surface is rough. Moderately deep gullies cross some areas.

This soil has a profile similar to that described as representative of the series, but it has a thinner and browner Ap horizon. Included in mapping are small areas of Lucy, Pine Flat, and Faceville soils. Also included are small, severely eroded spots where the reddish subsoil is at the surface.

This soil is poorly suited to large machinery used in row-crop farming. It is suited to hay, pasture, and woodland. Most of the acreage has been cleared and used mainly for pasture, hay, and winter small grain. Many areas have been planted or have reseeded naturally to stands of pine. Some areas are idle. A few are row cropped. If the soil is cultivated, the hazard of further erosion is very severe.

An effective method of erosion control in cultivated areas is the installation and maintenance of a complete water disposal system consisting of terraces and permanent sod waterways. A cropping system that includes close-growing crops most of the time is also effective. Other important management practices are contour farming, winter cover crops, minimum tillage, proper use of crop residue, and deep plowing. Capability unit IVe–12; woodland group 2o1.

Saffell Series

The Saffell series consists of well-drained, gently sloping to hilly soils on uplands. These soils formed in thick beds of unconsolidated marine deposits. The native vegetation was pine and scattered hardwoods.

In a representative profile the surface layer is grayish-brown gravelly fine sandy loam 6 inches thick. The subsoil is yellowish-red gravelly sandy loam to a depth of 13 inches, red gravelly sandy clay loam to a depth of 36 inches, red gravelly clay loam to a depth of 54 inches and red sandy clay loam mottled with strong brown to a depth of 70 inches.

Permeability is moderate, and the available water capacity is moderate. The seasonal high water table is below a depth of 72 inches. The organic-matter content is low.

These soils respond well to lime and fertilizer. Most of the gentle slopes have been cleared and are being used for crops and pasture. The stronger slopes are in woodland of pine and scattered hardwoods.

Representative profile of Saffell gravelly fine sandy loam, 2 to 8 percent slopes, in a moist field of young corn; NW¼NW¼NE¼SW¼ sec. 23, T. 18 N., R. 16 E.

Ap—0 to 6 inches, grayish-brown (10YR 5/2) gravelly fine sandy loam; weak, fine, granular structure; very friable; 35 percent rounded gravel; strongly acid; abrupt, wavy boundary.

B1—6 to 13 inches, yellowish-red (5YR 5/6) gravelly sandy loam; weak, medium, subangular blocky structure; very friable; 35 percent rounded gravel; sand grains coated and bridged with clay; strongly acid; gradual, smooth boundary.

B21t—13 to 36 inches, red (2.5YR 5/8) gravelly sandy clay loam; weak, medium, subangular blocky structure; friable; 35 percent small rounded gravel; few, very thin, patchy clay films on faces of peds; strongly acid; gradual, smooth boundary.

B22t—36 to 54 inches, red (2.5YR 4/8) gravelly clay loam; weak, medium, subangular blocky structure; firm; about 15 percent rounded gravel; many, very thin, patchy clay films on faces of peds; strongly acid; gradual, smooth boundary.

B3—54 to 70 inches, red (2.5YR 5/8) sandy clay loam; common, medium, prominent, strong-brown (7.5YR 5/6) mottles; weak, medium, subangular blocky structure; friable; slightly compact in places; very strongly acid.

The Ap horizon ranges from strongly acid to medium acid, and the B horizon is very strongly acid to strongly acid. The A and B horizons are 35 percent or more, by volume, rounded gravel. The Ap horizon is grayish brown, brown, or very dark grayish brown. In eroded areas it is reddish brown or yellowish red. The B1 horizon is yellowish-brown to red gravelly sandy loam or gravelly sandy clay loam. The B2 horizon is strong-brown to red gravelly sandy clay loam or gravelly clay loam. The B3 horizon is strong-brown to red, in places mottled and somewhat compact sandy loam or sandy clay loam. In places this horizon is gravelly.

Saffell soils are associated with Faceville and Ruston soils on gently undulating to gently rolling topography, and with Shubuta soils on hilly terrain. They contain more gravel than any of the associated soils and are not so clayey in the subsoil as Faceville and Shubuta soils.

Saffell gravelly fine sandy loam, 2 to 8 percent slopes (SaC).—Most areas of this soil are 10 to 40 acres in size, but a few are larger than 40 acres.

Included with this soil in mapping are similar soils that have less gravel and some gravelly soils that have a sandy clay or clay subsoil. These included soils make up about 35 percent of the mapping unit. In a small acreage on low knolls and the lower foot slopes, the surface layer is gravelly loamy sand as much as 20 inches thick.

This mapping unit is suited to pasture and hay. It is also suited to woodland and wildlife habitat. Except in a few nearly level areas this soil is not well suited to row crop farming. The topography is such that the effective use of row-crop equipment is limited. The hazard of erosion is moderate to severe.

A water-disposal system of terraces and grass sod waterways helps to reduce erosion in areas used for row crops. Growing close-growing sod crops most of the time, contour stripcropping, and minimum tillage are also effective erosion control measures. Capability unit IIIe–12; woodland group 4f2.

Shubuta Series

The Shubuta series consists of well-drained, hilly soils on uplands. These soils formed in thick beds of fine-textured marine deposits. The native vegetation was pine and scattered hardwoods.

In a representative profile the surface layer is dark grayish-brown fine sandy loam 4 inches thick. The subsoil is yellowish-red, very firm clay to a depth of 23 inches and red, friable sandy clay loam to a depth of 34 inches. The underlying material to a depth of 60 inches is yellowish-red sandy loam that has thin streaks and pockets of gray sandy clay loam.

Permeability is moderately slow to a depth of 34

inches and moderate to a depth of 60 inches. The available water capacity is moderate to high. The seasonal high water table is below a depth of 74 inches. Runoff is rapid, and the hazard of erosion is severe. The organic-matter content is low.

Representative profile of Shubuta fine sandy loam in an area of the Shubuta-Saffell complex, 10 to 30 percent slopes, in a moist wooded site one-fourth mile southeast of White Water Camp; NE¼NE¼ sec 25, T. 18 N., R. 14 E.

A1—0 to 4 inches, dark grayish-brown (10YR 4/2) fine sandy loam; weak, fine, granular structure; very friable; common small roots; very strongly acid; abrupt, smooth boundary.

B2t—4 to 23 inches, yellowish-red (5YR 5/6) clay; moderate, medium, subangular blocky structure; very firm; nearly continuous clay films on faces of peds; few fine flakes of mica; few quartz pebbles; very strongly acid; gradual, smooth boundary.

B3—23 to 34 inches, red (2.5YR 5/6) sandy clay loam; weak, medium, subangular blocky structure; friable; few flakes of mica; few, thin, patchy clay films on faces of peds; very strongly acid; gradual, smooth boundary.

C—34 to 60 inches, yellowish-red (5YR 5/8) sandy loam; common thin strata and pockets of gray (10YR 5/1) sandy clay loam; massive; firm in places; common flakes of mica; very strongly acid.

The profile is very strongly acid to strongly acid throughout. The A horizon ranges from fine sandy loam through loamy sand to gravelly loamy sand and gravelly sandy loam. It is 2 to 20 inches thick. An A horizon more than 10 inches thick is typically loamy sand or gravelly loamy sand. The B2t horizon ranges from clay loam to clay and from strong brown to red. The B3 horizon ranges from sandy clay to sandy loam and from strong brown to red, mottled in places with shades of gray, brown, and yellow. The C horizon ranges from loamy sand or sandy loam to beds of thinly stratified sandy and clayey material. In places layers of rock ¼ inch to 1½ inches thick and roughly parallel to the soil surface are in the upper part of the C horizon.

The Shubuta soils in Autauga County are mapped only with Saffell, Troup, Jones, Lucedale, and Flomaton soils. They have a finer textured B horizon than Jones, Lucedale, and Troup soils. They are finer textured and have less gravel in the B horizon than Saffell and Flomaton soils.

Shubuta-Saffell complex, 10 to 30 percent slopes (SsE).—This mapping unit is on uplands of the Coastal Plain. It is about 36 percent Shubuta and similar soils and about 34 percent Saffell and similar soils. The rest is Faceville, Lucedale, Lucy, and Flomaton soils.

The Shubuta soil has the profile described as representative of the series. The profile of the Saffell soil differs from the one described as representative of the series in having a surface layer that is reddish-brown gravelly fine sandy loam 5 inches thick. The subsoil is red gravelly clay loam to a depth of 32 inches and red gravelly sandy clay loam to a depth of 47 inches. The underlying material to a depth of 60 inches is yellowish-red, firm sandy clay loam mottled with strong brown.

The Shubuta soil is on midslopes and toeslopes, and the Saffell soil is on the upper slopes. Both occur in each mapped area. Faceville and Lucedale soils are on the narrow tops and more gentle upper slopes of ridges. Lucy and Flomaton soils are on foot slopes.

This mapping unit is not suited to row crops. Strong slopes, rapid runoff, and severe hazard of erosion limit its use. Many of the ridgetops have been row cropped, but most of these old fields have reverted to stands of pine. Much of the acreage is under residential development. This unit is suited to deep-rooted perennial hay and pasture crops. It is also suited to woodland and wildlife. Capability unit VIe–15; woodland group 3o1.

Shubuta-Troup association, hilly (STE).—This mapping unit is on uplands of the Coastal Plain. It is about 43 percent Shubuta and similar soils and 35 percent Troup and similar soils. The rest is Bibb, Flomaton, and Norfolk soils. The unit occurs as broad areas, several hundred acres in size, and as narrow areas that parallel flood plains along the larger creeks. The composition of this unit is more variable than that of most others in the county but has been controlled well enough that reliable interpretations can be made for the purposes for which the soils are likely to be used.

The profile of the Shubuta soil differs from the one described as representative of the series in having dark grayish-brown loamy sand to a depth of 7 inches and pale-brown loamy sand to a depth of 15 inches. The subsoil is strong-brown clay loam to a depth of 24 inches, yellowish-red clay to a depth of 32 inches, and yellowish-red sandy clay with yellowish-brown mottles to a depth of 54 inches. The underlying material to a depth of 70 inches is stratified and mottled sandy clay, sandy clay loam, and sandy loam. The Troup soil has the profile described as representative of its series.

The steep Shubuta soil is on low, narrow ridgetops and on foot slopes. The Troup soil is on higher and broader ridgetops and the upper side slopes. Bibb soils are on flood plains along small streams. Flomaton soils are typically at the ends of ridges and on some of the foot slopes. Norfolk soils are on the more gently sloping ridgetops.

This unit is characterized by highly dissected terrain and a dendritic drainage pattern. Wet seep areas or small springs are common in the shallow draws, and most of the more pronounced drainageways are small perennial streams. About 26 percent of this unit has slopes of less than 8 percent, and about 11 percent has slopes in excess of 25 percent.

This mapping unit is suited to woodland and wildlife. Much of it is suited to deep-rooted perennial grasses and legumes. Droughtiness, the hazard of erosion, and slope are severe limitations. Some of the more gentle slopes have been row cropped, but most of these old fields are too small to permit effective use of machinery. The hazard of erosion is severe during the land preparation needed in establishing hay and pasture crops. Good stands of these sod crops effectively control erosion. Slope restricts use of hay harvesting equipment in some areas. Shubuta soil in capability unit VIe–15, woodland group 3o1; Troup soil in capability unit VIs–14, woodland group 3s2.

Sumter Series

The Sumter series consists of well-drained soils on rolling uplands. These soils formed in beds of marly clays and chalk. The native vegetation was redcedar, mockorange, and black locust.

In a representative profile the surface layer is dark grayish-brown clay 5 inches thick. The subsoil is pale-olive clay to a depth of 17 inches and pale-olive clay mottled with yellowish brown to a depth of 26 inches.

The underlying material to a depth of 48 inches is very firm, mottled light brownish-gray and gray clay that has a strong, platy structure.

Permeability is slow, and the available water capacity is moderate. The seasonal high water table is below a depth of 72 inches. The organic-matter content is low.

Sumter soils have poor tilth. They form clods unless plowed at optimum moisture content. They harden, shrink, and crack when dry. They swell, provide poor traction, and are extremely sticky when wet. Most of the acreage is in low-quality pasture.

Representative profile of Sumter clay in an area of the Sumter-Faceville-Vaiden association, hilly; SE¼SE¼SE¼ sec. 6, T. 16 N., R. 12 E.

Ap—0 to 5 inches, dark grayish-brown (2.5Y 4/2) clay; moderate, fine, granular structure; firm, plastic and sticky; mildly alkaline; clear, smooth boundary.

B2—5 to 17 inches, pale-olive (5Y 6/3) clay; weak, fine, subangular blocky structure; firm; mildly alkaline; diffuse, smooth boundary.

B3—17 to 26 inches, pale-olive (5Y 6/3) clay; common, medium, distinct, yellowish-brown (10YR 5/6, 5/8) mottles; weak, fine, subangular blocky and weak, medium, platy structure; very firm; mildly alkaline; diffuse, wavy boundary.

C—26 to 48 inches, mottled light brownish-gray (2.5Y 6/2) and gray (5Y 6/1) clay; strong, medium, platy structure; common flakes of mica; few thin streaks of blackish-green sand; very firm; moderately alkaline; calcareous.

The profile ranges from mildly alkaline to moderately alkaline throughout. Depth to the C horizon ranges from 20 to 40 inches, but in most places is less than 30 inches. The A horizon ranges from very dark grayish brown to dark gray. It is silty clay or clay 3 to 10 inches thick.

The Sumter soils in Autauga County are mapped only with Faceville and Vaiden soils. Sumter soils are less red and have a higher pH value than Faceville soils and do not have the Bt horizon typical of those soils. They are better drained and have a higher pH value than Vaiden soils.

Sumter-Faceville-Vaiden association, hilly (SVE).—This mapping unit is in areas of several hundred acres. It is about 35 percent Sumter and similar soils, 30 percent Faceville and similar soils, and 25 percent Vaiden and similar soils. The rest is Norfolk, Saffell, and Roanoke soils. Slopes range from less than 8 percent to more than 25 percent. The composition of this unit is more variable than that of most units in the county but has been controlled well enough that reliable interpretations can be made for the purposes for which the soils are likely to be used.

The Faceville soil has a surface layer of reddish-brown gravelly sandy clay loam 5 inches thick. The subsoil is red gravelly clay loam to a depth of 44 inches and red sandy clay mottled with strong brown to a depth of 60 inches.

The Vaiden soil, in sequence from the top, is 4 inches of dark grayish-brown silty clay, 14 inches of brownish-yellow clay, and 21 inches of mottled brownish-yellow, gray, and yellowish-red clay. The underlying material is mottled and stratified sandy clay and clay that contains common quartz gravel.

Sumter and Vaiden soils occupy the lower, more gentle slopes and a few narrow, gently sloping benches midway on the landscape. In many areas the Sumter soil is severely eroded, and the pale-olive subsoil is exposed at the surface (fig. 8). The Faceville soil is on the narrow tops and the upper third of the sides of ridges. Norfolk and Saffell soils are on uplands, and the Roanoke soils are on low stream terraces.

About 36 percent of this mapping unit has slopes of less than 8 percent, and about 14 percent has slopes of more than 25 percent. Shallow gullies and severely eroded spots are common. In most areas perennial streams flow in deep ditches. Narrow flood plains or terraces are along some of the streams.

The hazards of erosion, slope, and soil tilth are severe limitations. The Sumter, Vaiden, and similar soils have high and very high shrink-swell potential and are highly unstable. They shrink and crack when dry, and swell and tend to slip when wet.

Many of the narrow ridgetops were cultivated, but most of the fields were too small to permit the effective use of farm machinery. The more gently sloping foot slopes of the Vaiden and Sumter soils are mainly in pasture. A few areas are in row crops. Most of the ridgetops and upper slopes are in good stands of pine trees, and the lower slopes are in mixed stands of pine, gum, and hardwoods.

This unit is suited to woodland of adapted trees species. Much of it is suited to pasture and hay. A few of the larger, more gently sloping areas can be row cropped effectively. Care is needed in planting and establishing hay and pasture crops because the hazard of erosion is severe. Good stands of deep-rooted perennial grasses and legumes are effective in controlling erosion. The slope restricts the use of hay harvesting equipment in some areas. Sumter soil in capability unit VIe–28, woodland group 4c2c; Faceville soil in capability unit VIe–15, woodland group 3o1; Vaiden soil in capability unit VIe–28, woodland group 3c8.

Troup Series

The Troup series consists of well-drained, gently sloping to hilly soils on uplands. These soils formed in thick beds of unconsolidated marine deposits. The native vegetation was predominantly longleaf pine and scattered hardwoods.

In a representative profile the surface layer is loamy sand 48 inches thick. It is dark brown to a depth of 9 inches, dark yellowish brown to a depth of 16 inches, and strong brown to a depth of 48 inches. The subsoil is yellowish-red loamy sand to a depth of 64 inches and red sandy loam to a depth of 80 inches.

Permeability is rapid to a depth of 64 inches and moderate to a depth of 80 inches. The available water capacity is low. The seasonal high water table is below a depth of 72 inches. The organic-matter content is low.

Troup soils can be worked throughout a wide range of moisture content without clodding or crusting. Soils of the Troup series are suited to hay, pasture, and pine trees.

Representative profile of Troup loamy sand, 2 to 8 percent slopes, in a moist area of longleaf and loblolly pine; SE¼SE¼SW¼ sec. 12, T. 18 N., R. 15 E.

A11—0 to 9 inches, dark-brown (10YR 3/3) loamy sand; weak, fine, granular structure; loose; strongly acid; gradual, smooth boundary.

A12—9 to 16 inches, dark yellowish-brown (10YR 4/4) loamy sand; very weak, fine, granular structure; very friable; strongly acid; clear, wavy boundary.

A13—16 to 48 inches, strong-brown (7.5YR 5/6) loamy

Figure 8.—Eroded Sumter soil in Sumter-Faceville-Vaiden association, hilly.

sand; very weak, granular structure; very friable; strongly acid; diffuse, smooth boundary.

B1—48 to 64 inches, yellowish-red (5YR 5/6) loamy sand; very weak, medium, subangular blocky structure; very friable; very strongly acid; gradual, smooth boundary.

B2t—64 to 80 inches, red (2.5YR 4/6) sandy loam; weak, medium, subangular blocky structure; friable; sand grains coated and bridged with clay; very strongly acid.

The profile ranges from very strongly acid to strongly acid throughout. The A horizon ranges from 40 to 70 inches in thickness. The A11 horizon is dark grayish brown, dark brown, or brown. The A12 and A13 horizons range from dark yellowish-brown and yellowish brown to yellowish red. The B1 horizon is strong-brown or yellowish-red loamy sand or sandy loam. The Bt horizon is strong-brown or red sandy loam or sandy clay loam.

Troup soils are associated with Blanton, Lucy, and Ruston soils in the more gently sloping areas and with Shubuta and Flomaton soils in rolling to hilly areas. They do not have the seasonal high water table and the firm and compact B2t horizon typical of Blanton soils. They have a thicker A horizon than Lucy soils. Troup soils have a thicker and coarser textured A horizon than Shubuta soils. They contain less gravel than Flomaton soils.

Troup loamy sand, 2 to 8 percent slopes (TaB).—This soil is on ridges and plateaus, in areas of 15 to several hundred acres. It has the profile described as representative of the series. Included in mapping are small areas of Blanton, Lakeland, and Lucy soils. Also included are small areas where slopes are greater than 8 percent.

Moisture deficiency and leaching of fertilizer are the major limitations. Gully erosion is a hazard in the more strongly sloping areas. The soil is suited to pasture and hay crops. Grain sorghum, soybeans, spring truck crops, and winter small grain are also grown.

Drought-resistant varieties of row crops should be selected. The hazard of erosion can be reduced by planting permanent sod strips where runoff from the stronger slopes is concentrated. Split application of nitrogen reduces the hazard of leaching. Green manure crops and crop residue help in maintaining the level of organic matter and improve the available water capacity. Capability unit IIIs–14; woodland group 3s2.

Troup association, hilly (TRE).—This mapping unit is about 71 percent Troup and similar soils, and the rest is Jones, Pine Flat, Ruston, and Shubuta soils. It is in broad areas several hundred acres in size. It is characterized by long, smooth slopes and a broadly branching dendritic drainage pattern. Slopes are 8 to 25 percent. Most of the drainageways have streams that flow intermittently. Changes of slope gradient and direction are gradual and smooth. The composition of this unit is more variable than that of most others in the county, but has been controlled well enough that

reliable interpretations can be made for the purposes for which the soils are likely to be used.

The Troup soil is dark grayish-brown loamy sand to a depth of 7 inches, dark yellowish-brown loamy sand to a depth of 16 inches, yellowish-red loamy sand to a depth of 52 inches, and red sandy loam to a depth of 70 inches.

Ruston and Pine Flat soils are typically on ridgetops or nearly level plateaus. Jones soils are on some of the concave slopes around the head of drainageways. Shubuta soils are on the low, narrow ridges and some of the steeper side slopes. About 35 percent of this unit has slopes of less than 8 percent, and about 7 percent has slopes greater than 25 percent.

The native vegetation was predominantly longleaf pine and scattered low-quality hardwoods. Poor timber management has resulted in the removal of most of the pine. The present plant cover is a dense stand of small scrub oak and a few scattered pine. Many of the less sloping areas have been used for crops and pasture in the past, but most of the cleared areas have been abandoned for general farm uses and are gradually reverting to woodland through natural reseeding or mechanical planting. Old terraces and many shallow and a few deep gullies have made the surface of previously cleared areas rough and uneven.

Droughtiness, the hazard of erosion, and slope are severe limitations. This unit is suited to woodland and wildlife. Some areas are suited to deep-rooted perennial grasses and legumes. The hazard of erosion is severe during land preparation and establishment of hay and pasture crops. Good stands of these sod crops effectively control erosion. The slope restricts use of hay harvesting equipment in some areas. Capability unit VIs–14; woodland group 3s2.

Vaiden Series

The Vaiden series consists of somewhat poorly drained, nearly level to sloping soils on uplands and stream terraces. These soils formed in thick beds of acid clay underlain by chalk or marl. The native vegetation was predominantly pine, gum, and hardwoods.

In a representative profile the surface layer is dark grayish-brown silty clay 6 inches thick. The subsoil is yellowish-brown clay mottled with red to a depth of 15 inches and mottled yellowish-brown, yellowish-red, and light-gray clay to a depth of 23 inches. The underlying material to a depth of 54 inches is very firm gray clay mottled with yellowish brown and light yellowish brown.

Permeability is slow in the surface layer and very slow in the subsoil and underlying material. The available water capacity is moderate. The seasonal high water table is at a depth of about 24 inches. The organic-matter content is low.

These soils respond well to lime and fertilizer. They form clods when plowed at other than optimum moisture content. They shrink and crack when dry and swell when wet. They are also sticky when wet.

Representative profile of Vaiden silty clay, in a moist pasture of dallisgrass, smuttgrass, and broom sedge; SW¼NW¼SW¼ sec. 30, T. 17 N., R. 14 E.

Ap—0 to 6 inches, dark grayish-brown (10YR 4/2) silty clay; moderate, medium, granular structure; friable; 5 percent small quartz pebbles; strongly acid; clear, smooth boundary.

B21—6 to 15 inches, yellowish-brown (10YR 5/6) clay; common, medium, distinct, red (2.5YR 4/6) mottles; moderate, fine, subangular and angular blocky structure, breaking to weak, fine, angular blocky; firm, sticky, and plastic; 5 percent small quartz pebbles; many pressure faces; strongly acid; gradual, wavy boundary.

B22—15 to 23 inches, mottled yellowish-brown (10YR 5/6), yellowish-red (5YR 4/6) and light-gray (10YR 6/1) clay; moderate, fine, angular and subangular blocky structure; firm, sticky, and plastic; many pressure faces; strongly acid; gradual, wavy boundary.

C—23 to 54 inches, gray (10YR 5/1) clay; many, medium, prominent, light yellowish-brown (10YR 6/4) and yellowish-brown (10YR 5/6) mottles; moderate, fine, subangular and angular blocky structure; very firm; intersecting slickensides; 7 percent small pebbles; slightly acid.

The A horizon ranges from very strongly acid to strongly acid, and the B and C horizons are very strongly acid to slightly acid. The Ap horizon is gray to dark grayish brown and is 4 to 12 inches thick. The B21 horizon is yellowish brown or brownish yellow and in places is mottled with red. The B22 horizon is mottled pale yellow, yellowish brown, strong brown, red, or light gray. In places the B horizon is as much as 12 percent quartz pebbles. Pressure faces are evident throughout the B horizon, and intersecting slickensides are at a depth of 18 to 40 inches. The C horizon is clay, silty clay, or sandy clay mottled with shades of red, brown, and gray. In spots it has a gray matrix mottled with these colors.

Vaiden soils are associated with Altavista, Faceville, Roanoke, Sumter, and Wickham soils. They have a finer textured B horizon and are more poorly drained than Altavista and Wickham soils. They are better drained than Roanoke soils. They are more poorly drained than Faceville soils and more poorly drained and more acid than Sumter soils.

Vaiden silty clay (Va).—This soil is generally in broad areas of 30 to 100 acres. Included in mapping are areas that have a sandy loam surface layer and a few areas that have a black clay surface layer 7 to 20 inches thick. These black soils are typically in slightly depressed areas and are ponded during wet seasons unless artificially drained. Also included are small areas where the lower part of the subsoil is 25 percent or less gravel.

This soil is suited to the crops commonly grown in the county. In most areas fields are large enough to be well suited to the use of large farm machinery. Runoff is slow, and surface drainage is required for some slight depressions. When wet, the soil is very sticky and provides poor traction for farm machinery. The major limitation is wetness. Flooding is a slight hazard in some areas.

Spring planting should be delayed 10 to 14 days to allow the soil to dry and to reduce the hazard of poor germination and cold damage to young crops. Adequate surface drainage, minimum tillage, and proper use of crop residue are important. Capability unit IIIw–28; woodland group 3c8.

Wickham Series

The Wickham series consists of well-drained, nearly level to moderately steep soils on stream terraces. These soils formed in thick beds of unconsolidated fluvial deposits. The native vegetation was pine and scattered gum and hardwoods.

In a representative profile the surface layer is brown fine sandy loam 6 inches thick. The subsoil is yellowish-red loam to a depth of 12 inches, red clay loam to a depth of 21 inches, and yellowish-red sandy clay loam to a depth of 42 inches. The underlying material to a depth of 83 inches is yellowish-red loamy sand stratified with sandy loam and gravelly loamy sand.

Permeability is moderate to a depth of 42 inches and moderately rapid below that depth. The available water capacity is moderate. The seasonal high water table is below a depth of 72 inches. The organic-matter content is low. Some areas are subject to overflow during the winter about 1 year in 10.

These soils respond to lime and fertilizer. They have good tilth and can be worked throughout a wide range of moisture content without clodding or crusting. Most of the acreage has been cleared and used for crops. A few small areas adjacent to more poorly drained soils are in woodland.

Representative profile of Wickham fine sandy loam, 0 to 2 percent slopes, two miles southwest of Autaugaville; NW¼SW¼SE¼ sec. 36, T. 17 N., R. 14 E.

Ap—0 to 6 inches, brown (7.5YR 4/4) fine sandy loam; weak, fine, granular structure; very friable; strongly acid; abrupt, smooth boundary.

B21t—6 to 12 inches, yellowish-red (5YR 4/8) loam; weak, medium, subangular blocky structure; friable; few patchy clay films on faces of peds; very strongly acid; gradual, smooth boundary.

B22t—12 to 21 inches, red (2.5YR 5/8) clay loam; moderate, medium, subangular blocky structure; firm; few fine flakes of mica; nearly continuous clay films on faces of peds; very strongly acid; diffuse, smooth boundary.

B3t—21 to 42 inches, yellowish-red (5YR 4/8) sandy clay loam; weak, medium, subangular blocky structure; very friable; common flakes of mica; very strongly acid; diffuse, smooth boundary.

C—42 to 83 inches, yellowish-red (5YR 5/8) loamy sand; stratified sandy loam and gravelly loamy sand; massive; loose; common flakes of mica; very strongly acid.

The A horizon ranges from strongly acid to medium acid, and the B and C horizons are very strongly acid to strongly acid. The A horizon is loamy sand or fine sandy loam. The B horizon ranges from strong brown to red. The B1 horizon is loam or sandy loam. The B2 horizon is loam, sandy loam, sandy clay loam, or clay loam. The B3 horizon ranges from sandy loam to sandy clay loam and contains fine flakes of mica. Depth to the C horizon ranges from 40 to more than 60 inches.

Wickham soils are associated with Altavista, Benndale, Lakeland, McQueen, Rains, and Roanoke soils. They have a redder B horizon and are better drained than Altavista soils. They have a finer textured B horizon than Benndale and Lakeland soils. They have a coarser textured B horizon than McQueen soils. Wickham soils have a redder B horizon and are better drained than Rains and Roanoke soils.

Wickham loamy sand, 0 to 5 percent slopes (WaB).—This level to gently undulating soil is on stream terraces in areas 10 to 30 acres in size. Its profile differs from the one described as representative of the series in having a loamy sand surface layer 15 inches thick.

Included in mapping are small areas of a similar soil that has a loamy sand surface layer 20 to 40 inches thick. Also included are small, slightly depressed areas that have a loam or sandy loam surface layer and some areas that have a yellowish-brown subsoil.

This soil is suited to the crops commonly grown in the county. It is well suited to hay and forage crops. Most areas can be farmed with adjoining soils in large fields that are well suited to farm machinery. When dry, fallow areas provide poor traction for equipment. The major limitation of this soil is moisture deficiency during the growing season.

Green manure crops and proper use of crop residue help in maintaining the level of organic matter and reduce the hazard of erosion in the more sloping areas. Other important practices are minimum tillage and deep plowing. Capability unit IIe–36; woodland group 2o7.

Wickham fine sandy loam, 0 to 2 percent slopes (WkA).—This soil is on stream terraces, in irregularly shaped areas larger than 15 acres. It has the profile described as representative of the series.

Included in mapping are wet spots and small areas of Rains and Altavista soils that are ponded during the rainy season unless artificially drained. Also included are small spots where the slope is greater than 2 percent and the reddish subsoil is within normal plow depth.

This soil is well suited to the crops commonly grown in the county. Most areas can be farmed with adjacent soils in large fields well suited to farm machinery.

The wet spots and Rains and Altavista soils can be drained by surface ditches or underground drainage systems. Installing adequate surface drainage for the wet spots greatly increases the suitability of this soil for crops. Green manure crops help in maintaining the level of organic matter and to protect against floodwater scouring in areas where this soil is subject to overflow. Other important management practices are minimum tillage and proper use of crop residue. Capability unit I–36; woodland group 2o7.

Wickham fine sandy loam, 2 to 5 percent slopes (WkB).—This soil is on long, narrow slopes on the Alabama River. Areas are 5 to about 25 acres in size.

Included in mapping are small areas of Altavista and Rains soils in small depressions. Also included are small eroded areas where the yellowish-red subsoil is within normal plow depth. These eroded areas are on small knolls and along the upper slopes.

This soil is suited to the crops commonly grown in the county. Most areas can be farmed with adjoining soils in large fields that are suited to the use of farm machinery. The hazard of erosion is moderate on the slopes, and wetness is a problem in the depressions.

Installing terraces and waterways is not practical in most areas, although terraces could be used to advantage in a few areas. A cropping system that includes a close-growing crop is effective in erosion control. Green manure crops help to control erosion, improve soil tilth, and help in maintaining the level of organic matter. Other important practices are minimum tillage, deep plowing, and proper use of crop residue. Capability unit IIe–36; woodland group 2o7.

Wickham soils, 5 to 17 percent slopes (WsD).—This mapping unit is on stream terraces and on slopes separating the first and second terraces. Wickham soils occur at random throughout the unit; some areas are nearly all Wickham soil and others have very little Wickham soil. Most of the areas are less than 100 yards wide and range up to 1 mile in length.

The profile of these soils differs from the one described as representative of the series in having a slightly thinner Ap horizon. Included in mapping are

areas of McQueen and Altavista soils. Also included are a few short slopes that are almost vertical. Erosion has exposed the yellowish-red subsoil in places.

About half the acreage is wooded. The rest is in pasture and hay crops. The slope and irregular surface greatly reduce the suitability of this unit. Use is limited chiefly to pasture, hay, woodland, and wildlife. The hazard of erosion is moderate to severe, and the strong slopes limit the use of large row-crop equipment. Capability unit VIe–36; woodland group 2o7.

Use of the Soils for Crops and Pasture [2]

This section explains the capability classification in which the soils are grouped according to their suitability for most kinds of farming. It defines the capability groups in Autauga County. It also suggests general management practices and gives estimates of yields of crops for the soils in the county.

Capability Grouping

Capability grouping shows, in a general way, the suitability of soils for most kinds of field crops. The grouping is based on limitations of the soils when used for field crops, the risk of damage when they are used, and the way they respond to treatment. The grouping does not take into account major and generally expensive landforming that would change slope, depth, or other characteristics of the soils; does not take into consideration possible but unlikely major reclamation projects; and does not apply to rice, cranberries, horticultural crops, or other crops requiring special management.

Those familiar with the capability classification can infer from it much about the behavior of soils when used for other purposes, but this classification is not a substitute for interpretations designed to show the suitability and limitations of soils for woodland or engineering.

In the capability system, all kinds of soil are grouped at three levels, the capability class, the subclass, and the unit. These levels are described in the following paragraphs.

Capability classes are the broadest groups, designated by Roman numerals I through VIII. In class I are the soils that have the fewest limitations, the widest range of use, and the least risk of damage when they are used. The soils in the other classes have progressively greater natural limitations. In class VIII are soils and landforms so rough, shallow, or otherwise limited that they do not produce worthwhile yields of crops, forage, or wood products. The subclass indicates major kinds of limitations within the classes. Within most of the classes there can be up to four subclasses. The subclasses are indicated by adding a small letter *e*, *w*, *s*, or *c*, to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* means that water in or on the soil interferes with plant growth or cultivation (in some soils wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c* indicates that the chief limitation is climate that is too cold or too dry.

In class I there are no subclasses, because the soils of this class have few or no limitations. Class V can contain, at the most, only subclasses *w*, *s*, and *c*, because the soils are subject to little or no erosion, but have other limitations that confine their use largely to pasture or wildlife.

Subclasses are further divided into groups called capability units. These are groups of soils that are so much alike that they are suited to the same crops and pasture plants, require about the same management, and have generally similar productivity and other response to management. Capability units are generally identified by numbers assigned locally, for example, IIe–11 or IIIs–14.

The eight classes in the capability system and the subclasses and units in Autauga County are described in the list that follows. The unit designation is given in the Guide to Mapping Units.

Class I. Soils have few limitations that restrict their use (no subclasses).
- Unit I–12: Deep, nearly level, well-drained soils that have a loamy and sandy surface layer and a loamy subsoil; on uplands.
- Unit I–35. Deep, nearly level, well-drained soils that have a loamy surface layer and a clayey subsoil; on low stream terraces.
- Unit I–36. Deep, nearly level, well-drained soils that have a loamy surface layer and subsoil; on stream terraces.

Class II. Soils have moderate limitations that reduce choice of plants or require moderate conservation practices.

Subclass IIe. Soils subject to moderate erosion unless protected.
- Unit IIe–11. Deep, gently sloping, well-drained soils that have a loamy surface layer and a clayey subsoil; on uplands.
- Unit IIe–12. Deep, gently sloping, well-drained soils that have a loamy surface layer and subsoil; on uplands.
- Unit IIe–36. Deep, nearly level to gently sloping, well drained and moderately well drained soils that have a loamy and sandy surface layer and a loamy subsoil; on stream terraces.

Subclass IIw. Soils moderately limited by excess water.
- Unit IIw–13. Deep, nearly level, moderately well drained soils that have a sandy surface layer and a loamy subsoil; on stream terraces.
- Unit IIw–31. Deep, nearly level to gently sloping, well-drained soils that have a loamy surface layer and subsoil and are subject to flooding.
- Unit IIw–36. Deep, nearly level, moderately well drained soils that have a loamy surface layer and subsoil; on stream terraces.

[2] LEWIS D. WILLIAMS, conservation agronomist, Soil Conservation Service, helped prepare this section.

Subclass IIs. Soils moderately limited by low available water capacity.
Unit IIs–13. Deep, nearly level to gently sloping, well-drained soils that have a sandy and loamy surface layer and a loamy subsoil; on uplands and stream terraces.
Unit IIs–14. Deep, nearly level to gently sloping, well-drained soils that have a sandy surface layer and a loamy subsoil; on uplands.

Class III. Soils have severe limitations that reduce the choice of plants, require special conservation practices, or both.
Subclass IIIe. Soils subject to severe erosion if they are cultivated and not protected.
Unit IIIe–12. Deep, gently sloping to sloping, well-drained soils that have a loamy surface layer and subsoil; on uplands.
Subclass IIIs. Soils severely limited by lack of water during growing season.
Unit IIIs–14. Deep, nearly level to sloping, well drained and somewhat excessively drained soils that have a sandy surface layer and subsoil; on uplands.
Subclass IIIw. Soils severely limited by excess water.
Unit IIIw–28. Deep, nearly level, somewhat poorly drained soils that have a clayey surface layer and subsoil; on uplands and stream terraces.
Unit IIIw–31. Deep, nearly level, poorly drained soils that have a loamy surface layer and clayey subsoil; on low stream terraces.

Class IV. Soils have very severe limitations that reduce the choice of plants, require very careful management, or both.
Subclass IVe. Soils subject to very severe erosion if they are cultivated and not protected.
Unit IVe–12. Deep, sloping, well-drained soils that have a loamy surface layer and subsoil; on uplands.
Subclass IVs. Soils very severely limited by lack of moisture during the growing season.
Unit IVs–14. Deep, nearly level and gently sloping, excessively drained soils that have a sandy surface layer and subsoil; on stream terraces.
Subclass IVw. Soils very severely limited by excess water.
Unit IVw–11. Deep, nearly level, very poorly drained soils that have a loamy surface layer and clayey subsoil; on uplands.
Unit IVw–12. Deep, nearly level, poorly drained soils that have a loamy surface layer and subsoil; on low stream terraces.
Unit IVw–16. Deep, nearly level, poorly drained soils that have a loamy surface layer and subsoil; on first bottoms and low stream terraces subject to frequent overflow.

Class V. Soils are subject to little or no erosion but have other limitations, impractical to remove, that limit their use largely to pasture or range, woodland, or wildlife habitat.
Subclass Vw. Soils too wet for cultivation; drainage or protection not feasible.
Unit Vw–13. Deep, nearly level, poorly and very poorly drained soils that have a loamy surface layer and loamy and sandy subsoil; on flood plains subject to frequent flooding.
Unit Vw–14. Deep, nearly level, excessively drained soils that have a sandy surface layer and subsoil; on flood plains that are subject to frequent flooding.

Class VI. Soils have severe limitations that make them generally unsuitable for cultivation and limit their use largely to pasture or range, woodland, or wildlife habitat.
Subclass VIe. Soils severely limited, chiefly by risk of erosion unless protective cover is maintained.
Unit VIe–13. Deep, strongly sloping to steep, well-drained soils that have a loamy surface layer and subsoil; on uplands.
Unit VIe–15. Deep, strongly sloping to steep, well-drained soils that have a loamy surface layer and loamy and clayey subsoil; on uplands.
Unit VIe–28. Moderately deep and deep, strongly sloping to moderately steep, well drained and somewhat poorly drained soils that have a clayey surface layer and subsoil; on uplands.
Unit VIe–36. Deep, sloping to moderately steep, well-drained soils that have a loamy surface layer and subsoil; on stream terraces.
Subclass VIs. Soils severely limited by their sandy texture and by lack of moisture during growing season.
Unit VIs–14. Deep, strongly sloping to moderately steep, well-drained soils that have sandy surface layer and subsoil; on uplands.

Class VII. Soils have very severe limitations that make them unsuitable for cultivation and restrict their use largely to range, woodland, or wildlife food and cover.
Subclass VIIe. Soils very severely limited, chiefly by risk of erosion unless protective cover is maintained.
Unit VIIe–31. Deep, sloping to steep, well-drained soils that have a loamy surface layer and subsoil; on flood plains of rivers and large creeks.
Subclass VIIs. Soils severely limited because they are sandy and gravelly and droughty.
Unit VIIs–14. Deep, strongly sloping to steep, excessively drained soils that have a gravelly and sandy surface layer and subsoil; on uplands.

Class VIII. Soils and landforms have limitations that preclude their use for commercial crop production and restrict their use to recreation, wildlife, or water supply, or to esthetic purposes. (None in Autauga County.)

General Management Practices

The amounts and analysis of lime and fertilizer needed to grow a particular crop depend on the requirements of the plant and on past fertilization and management. Lime and fertilizer needs should always be determined by soil testing.

The frequent use of heavy farm machinery has resulted in compacted layers in the upper part of the subsoil in many row-cropped fields. These compacted layers, usually referred to as plowpans or trafficpans, restrict root penetration and retard the movement of soil water. Chiseling, subsoiling, and deep plowing help reduce compaction. Minimum tillage is effective in preventing the formation of compacted layers. Minimum tillage that leaves crop residue on the soil surface is effective in reducing soil erosion and runoff water.

Management for pasture and hay consists of proper grazing or cutting heights, weed control, proper fertilization, rotational grazing, and scattering droppings. Cool-season perennial grasses, such as tall fescue, should be rested in the summer so that food reserves will be stored in the plants for fall and early spring growth. Overgrazing and low fertilization result in weak plants and poor stands that are quickly infested with weeds. The best way to prevent weeds from becoming established is to keep a good dense ground cover with desired pasture species.

A reconnaissance soil survey is one in which the boundaries between mapping units are sketched from observation at various intervals. The reconnaissance groups in Autauga County include wide ranges in slope or varied soil characteristics. The soils in these units are not widely used for crops and grasses but areas are included that are suited to these uses. The wide variation in soil condition of these units makes it impractical to describe use and management in this publication. Onsite interpretations are needed for selecting and managing areas for crops and grasses. This assistance can be obtained by contacting the Soil Conservation District Office.

Estimated Yields

The estimated average yield per acre of the principal crops grown in Autauga County are shown in table 2 for each soil mapped. The estimates are based on records of actual yields on local farms, on yields obtained in long-term experiments, and on estimates made by agricultural workers who have had experience with the crops and soils. All estimates are based on a high level of management, an average amount of rainfall over a long period, and no irrigation.

Under high-level management—

1. Fertilizer and lime are added according to the needs indicated by soil tests.
2. Cropping systems suggested in the section describing the capability units are followed.
3. Water is used or is disposed of by means of contour cultivation or artificial drainage.
4. Seedbeds are well prepared and are properly seeded.
5. Good crop varieties and seeding mixtures are used at proper planting rates and suggested planting dates.
6. Diseases, insects, and undesirable plants are controlled.
7. Grazing is regulated.

Use of the Soils for Woodland [3]

Autauga County was originally entirely covered with woodland. Now about 66 percent of the county, or 253,700 acres, is wooded (*10*). This acreage is about 72 percent upland forest types of pine and of mixed pine and hardwoods. Hardwoods are predominant on stream bottoms and lower slopes.

Wood-using industries are important sources of income to the county, even though most of the markets are in adjacent counties. A large papermill complex assures this area of a stable market. The potential production of wood crops is 3 times as great as current production (*9*, *10*). Establishment of desirable trees is needed on approximately 126,000 acres and some type of stand improvement on 119,000 acres. Existing stands, on the average, are understocked.

Woodland Management

The soils of Autauga County have been classified in woodland groups to assist woodland owners and managers in planning the use of soils for wood crops. Each group is made up of soils that are suited to the same kinds of trees, that need approximately the same kind of management when the vegetation on them is similar, and that have about the same potential productivity. Table 3 classifies the soils by woodland groups. It also lists important trees for each group and their average site index.

Each woodland group is identified by a three-part symbol, such as 1w5, 2c8, or 3r2. The first part of the symbol, always a number, indicates relative potential productivity of the soils in the group: 1 indicates very high; 2, high; 3, moderately high; 4, moderate; and 5, low. These ratings are based on field determinations of average site index of an indicator forest type or species. Site index is the height, in feet, that the dominant trees of a given species, on a specified kind of soil, reach in a natural, unmanaged stand in a stated number of years. For the marketable hardwoods and softwoods in this county, the site index is the height reached in 50 years, except for cottonwood and sycamore, for which the index is the height reached in 30 years.

Site indexes are grouped into site quality classes. The classes indicate the approximate expected yield per acre in cords and board feet. On the basis of research studies, site index can be converted into approximate expected growth and yield per acre in cords and board feet. For this survey, conversions of average site index into volumetric growth and yield are based on research as follows: loblolly and shortleaf pines (*6*), cottonwood (*3*), and oaks (*4*).

The second part of the symbol identifying a woodland group is a small letter. This letter indicates an

[3] W. C. AIKEN, woodland conservationist, Soil Conservation Service, helped prepare this section.

TABLE 2.—*Estimated average yields per acre of principal crops under high level management*

[Absence of a figure indicates that the crop is not suited to or is not commonly grown on the soil specified. Only arable soils are listed]

Soil	Corn	Cotton (lint)	Soybeans	Grain sorghum	Coastal bermuda-grass hay	Coastal bermuda-grass pasture	Fescue and legume pasture
	Bu	*Lb*	*Bu*	*Bu*	*Tons*	*AUM* [1]	*AUM* [1]
Alaga loamy sand, 0 to 5 percent slopes	50	400	20	25	5.0	7.5	
Altavista loam, 0 to 2 percent slopes	85	550	40	55	4.5	6.5	6.0
Altavista loam, 2 to 5 percent slopes	75	650	35	50	4.5	6.5	6.0
Benndale loamy fine sand	70	500	25	35	8.0	10.0	
Bibb soils							7.0
Blanton loamy sand	45	350	30	30	8.0	10.0	
Faceville sandy clay loam, 2 to 5 percent slopes	85	800	35	40	6.0	8.0	5.5
Flomaton-Shubuta association, hilly						4.0	
Grady complex							10.0
Harleston loamy fine sand	85	700	35	45	7.0	10.0	6.0
Jones-Shubuta association, hilly					6.0	5.5	
Lakeland loamy sand, 0 to 5 percent slopes			20	25	6.0	8.0	
Lakeland soils, frequently flooded						4.5	
Lucedale fine sandy loam, 0 to 2 percent slopes	80	850	35	40	6.0	10.0	5.5
Lucedale fine sandy loam, 2 to 5 percent slopes	75	750	32	37	6.0	10.0	5.5
Lucedale fine sandy loam, 4 to 10 percent slopes, eroded	55	500	27	32	6.0	10.0	5.0
Lucy loamy sand, 0 to 5 percent slopes	65	550	30	35	6.0	8.0	
McQueen silt loam	90	1,000	40	50			10.0
Myatt-Bibb association			45	55			7.0
Norfolk loamy fine sand, 0 to 2 percent slopes	95	800	40	45	6.0	10.0	6.0
Norfolk fine sandy loam, 2 to 5 percent slopes	90	750	35	40	6.0	9.0	6.0
Norfolk fine sandy loam, 5 to 8 percent slopes	80	650	30	35	5.7	8.0	5.6
Ochrepts, loamy, 0 to 5 percent slopes	100	1,000	45	55			7.0
Pine Flat sandy loam, 0 to 5 percent slopes	50	600	30	35	6.5	9.0	
Rains fine sandy loam	80		35	50			8.0
Roanoke complex	90		45	55			10.0
Ruston fine sandy loam, 0 to 2 percent slopes	75	750	30	35	6.0	10.0	5.5
Ruston fine sandy loam, 2 to 5 percent slopes	70	650	30	30	6.0	10.0	5.5
Ruston fine sandy loam, 4 to 10 percent slopes, eroded	55	500	24	27	6.0	7.5	5.0
Saffell gravelly fine sandy loam, 2 to 8 percent slopes	55	475	24	27	5.7	7.5	5.0
Shubuta-Saffell complex, 10 to 30 percent slopes						5.5	
Shubuta-Troup association, hilly					3.0	5.0	
Sumter-Faceville-Vaiden association, hilly							5.0
Troup loamy sand, 2 to 8 percent slopes	50	400	25	30	7.1	9.0	
Troup association, hilly					3.0	6.5	
Vaiden silty clay	45	500	35	40			6.0
Wickham loamy sand, 0 to 5 percent slopes	60	625	27	30	6.5	10.0	5.5
Wickham fine sandy loam, 0 to 2 percent slopes	85	750	35	40	6.0	10.0	6.0
Wickham fine sandy loam, 2 to 5 percent slopes	75	700	30	35	6.0	9.0	6.0
Wickham soils, 5 to 17 percent slopes					5.0	8.0	5.5

[1] Animal-unit-month expresses the carrying capacity of pasture. It is the number of months that 1 acre will provide grazing for one animal unit (1,000 pounds live weight).

TABLE 3.—*Woodland suitability groups, average site indexes, and yearly growth per acre of important trees*

Woodland group and soil symbols	Important trees	Average site index	Yearly growth rate per acre	
			Board feet (Doyle rule)	*Cords*
Group 1o7: OcB, OcD	Loblolly pine	100	538	2.7
	Slash pine	100	538	2.7
	Yellow-poplar	100	498	1.4
	Sycamore	100	439	1.1
	Sweetgum	90	416	1.2
	Bottom land oak	90	332	1.0
	Cottonwood	100	597	2.1
Group 2o1: Be, JcE, JSE, LdA, LdB, LdC2, NfA, NkB, NkC, PfB, RuA, RuB, RuC2. For Shubuta part of JSE, see woodland group 3o1.	Loblolly pine	90	452	2.3
	Slash pine	90	452	2.3
	Shortleaf pine	75	320	1.6
	Longleaf pine	70	105	.9
Group 2o7: WaB, WkA, WkB, WsD	Loblolly pine	90	452	2.3
	Slash pine	90	452	2.3
	Shortleaf pine	75	320	1.8
	Sweetgum	90	416	1.2
Group 2w3: Ra	Slash pine	90	452	2.3
	Loblolly pine	90	452	2.3
	Sweetgum	90	416	1.2
	Bottom land oak	80	244	.8
Group 2w8: AtA, AtB, Ha, Ro	Loblolly pine	90	452	2.3
	Sweetgum	90	416	1.2
	Shortleaf pine	80	373	1.8
	Bottom land oak	80	244	.8
	Yellow-poplar	100	498	1.4
Group 2w9: Bs, Gr, MY, Ok	Loblolly pine	90	452	2.3
	Slash pine	90	452	2.3
	Sweetgum	90	416	1.2
	Bottom land oak	90	332	1.0
Group 3o1: FaB, SsE, STE. For Saffell part of SsE, see woodland group 4f2. For Troup part of STE, see woodland group 3s2.	Loblolly pine	80	364	1.9
	Slash pine	80	364	1.9
	Shortleaf pine	70	281	1.5
	Longleaf pine	75	85	.8
Group 3o7: Mc	Loblolly pine	80	364	1.9
	Slash pine	80	364	1.9
	Shortleaf pine	70	281	1.5
	Yellow-poplar	90	416	1.2
Group 3c8: Va	Loblolly pine	80	364	1.9
	Shortleaf pine	70	281	1.5
	Sweetgum	80	270	.9
	Eastern redcedar	40–50	300	(1)
Groun 3s2: LhB, TaB, TRE	Loblolly pine	80	364	1.9
	Slash pine	80	364	1.9
	Shortleaf pine	70	281	1.5
	Longleaf pine	65	85	.8
Group 3s3: AaB	Loblolly pine	80	364	1.9
	Shortleaf pine	70	281	1.5
	Slash pine	80	364	1.9
	Longleaf pine	65	85	(1)
Group 4c2c: SVE. For Faceville part of SVE, see woodland group 3o1. For Vaiden part of SVE, see woodland group 3c8.	Eastern redcedar	40–50	300	(1)

TABLE 3.—*Woodland suitability groups, average site indexes, and yearly growth per acre of important trees* —Continued

Woodland group and soil symbols	Important trees	Average site index	Yearly growth rate per acre	
			Board feet (Doyle rule)	*Cords*
Group 4f2: FSE, SaC. For Shubuta part of FSE, see woodland group 3o1.	Loblolly pine	70	262	1.6
	Shortleaf pine	60	204	1.2
	Longleaf pine	60	50	.7
Group 4s3: Bf, LaB, Lb	Loblolly pine	70	262	1.6
	Slash pine	70	262	1.6
	Longleaf pine	60	50	.7

[1] Yearly growth rate measured in production of posts. For eastern redcedar it is estimated at 68 posts per acre per year.

important soil property that imposes a slight to severe hazard or limitation in managing the soils of the group for wood crops. A letter *c* indicates that the main limitation is the kind or amount of clay in the upper part of the soil; *o* indicates that the soil has few limitations that restrict its use for trees; *r* indicates that the main limitation is steep slopes; *s* indicates that the soils are sandy and dry, have little or no difference in texture between the surface layer and subsoil, or B horizon, have a low available water capacity, and generally have a low supply of plant nutrients; and *w* indicates that water in or on the soil, either seasonally or year round, is the chief limitation.

The third part of the symbol indicates degree of hazard or limitation and general suitability of the soils for certain kinds of trees.

The numeral 1 indicates soils that have no or only slight limitations and that are best suited to needleleaf trees.

The numeral 2 indicates soils that have one or more moderate limitations and are best suited to needleleaf trees.

The numeral 3 indicates soils that have one or more severe limitations and that are best suited to needleleaf trees.

The numeral 4 indicates soils that have no limitation or only a slight limitation and are best suited to broadleaf trees.

The numeral 5 indicates soils that have one or more moderate limitations and are best suited to broadleaf trees.

The numeral 6 indicates soils that have one or more severe limitations and are best suited to broadleaf trees.

The numeral 7 indicates soils that have no limitation or only a slight limitation and are suited to both needleleaf and broadleaf trees.

The numeral 8 indicates soils that have one or more moderate limitations and are suited to both needleleaf and broadleaf trees.

The numeral 0 indicates soils that are not suitable for commercial production of timber.

The hazards or limitations that affect management of soils for woodland are windthrow hazard, erosion hazard, equipment limitations, seedling mortality, and plant competition.

To facilitate management, the soils of Autauga County have been assigned to woodland groups, which are described in the following pages. Considered for each woodland group are the hazard of windthrow, the hazard of erosion, the limitation to use of equipment, the hazard of seedling mortality, and the risk of competition from undesirable plants. These hazards and limitations are expressed as slight, moderate, or severe.

Windthrow hazard measures the effect of the soils on root development and the ability of the soil to hold trees firmly. The hazard is *slight* if effective rooting is more than 20 inches and the tree withstands wind; *moderate,* if effective rooting is from 10 to 20 inches and some trees are blown down during periods of excessive soil wetness and strong wind; and *severe,* if effective rooting is 10 inches or less and trees will not stand alone in strong wind.

Erosion hazard refers to the potential hazard of soil loss in well-managed woodland. The hazard is *slight* if expected soil loss is small; *moderate* if some soil loss is expected and care is needed during logging and construction; *severe* if special logging methods are necessary for preventing excessive soil loss. In Autauga County only the steep soils are subject to severe erosion.

Equipment limitation is rated on the basis of soil characteristics that restrict or prohibit the use of equipment commonly used in tending and harvesting the trees. In Autauga County soil characteristics having the most limiting effect are drainage, depth to water table, slope, and texture of the surface layer. *Slight* indicates no restriction in the kind of equipment or in the time of year it is used; *moderate* means that use of equipment is restricted for less than 3 months of the year; and *severe* means that special equipment is needed and its use is restricted for more than 3 months of the year.

Seedling mortality refers to the expected degree of mortality of planted seedlings as influenced by kinds of soil when plant competition is not a limiting factor. Considered in the ratings are depth to the water table, hazard of flooding, drainage, soil depth and structure, and degree of erosion. Normal rainfall, good planting stock, and proper planting are assumed. A rating of *slight* indicates an expected loss of less than 25 percent of the planted seedlings; *moderate,* a loss of 25

to 50 percent; and *severe,* a loss of more than 50 percent. Special preparation of the site is needed before planting for soils rated severe and for most soils rated moderate.

Plant competition is rated on basis of the degree to which unwanted plants invade openings in the tree canopy. Considered in the ratings are available moisture capacity, fertility, drainage, and degree of erosion. A rating of *slight* means that competition from other plants is not a problem; *moderate,* that plant competition delays development of fully stocked stands of desirable trees; and *severe,* that plant competition prevents establishment of a desirable stand unless intensive site preparation and such practices as weeding are used to control undesirable plants.

The woodland groups recognized in Autauga County are described in the paragraphs that follow.

WOODLAND GROUP 1o7

This group consists of deep, level to moderately steep, well-drained soils on flood plains. These soils have a loamy surface layer and subsoil. They have no major soil-related limitations for wood crops. Overflow sometimes delays harvesting for short periods.

These soils produce good-quality hardwoods and pine. Species suitable for planting are loblolly pine, slash pine, yellow-poplar, sweetgum, sycamore, and cottonwood.

WOODLAND GROUP 2o1

This group consists of deep, nearly level, well-drained soils on stream terraces and nearly level to hilly soils on uplands. These soils have a sandy and loamy surface layer and a loamy subsoil. Limitations for wood crops are none to slight.

These soils are best suited to needleleaf trees. Species suitable for planting are loblolly pine, slash pine, and longleaf pine.

WOODLAND GROUP 2o7

This group consists of deep, nearly level to moderately steep, well-drained soils on stream terraces. These soils have a sandy and loamy surface layer and a loamy subsoil. Limitations for wood crops are none to slight.

These soils are suited to both needleleaf and broadleaf trees. Species suitable for planting are loblolly pine, slash pine, and yellow-poplar.

WOODLAND GROUP 2w3

Rains fine sandy loam, the only soil in this group, is a deep, nearly level, poorly drained soil on stream terraces. It is loam throughout.

The equipment limitation is severe. Seedling mortality is severe.

This soil is best suited to needleleaf trees. Species suitable for planting are slash pine and loblolly pine.

WOODLAND GROUP 2w8

This group consists of deep, nearly level to gently sloping, moderately well drained and poorly drained soils on stream terraces. These soils have a sandy and loamy surface layer and loamy and a clayey subsoil.

Seasonal wetness makes the equipment limitation moderate. Seedling mortality is slight to moderate.

Species suitable for planting are loblolly pine, slash pine, sweetgum, yellow-poplar, and cottonwood.

WOODLAND GROUP 2w9

This group consists of deep, nearly level, poorly drained to very poorly drained soils on flood plains, on uplands, and on stream terraces. These soils have a loamy surface layer and a sandy, loamy, and clayey subsoil.

Prolonged wetness makes the equipment limitation severe. Seedling mortality is severe.

These soils are suited to both needleleaf and broadleaf trees. Species suitable for planting are slash pine, loblolly pine, sweetgum, and sycamore.

WOODLAND GROUP 3o1

This group consists of deep, gently sloping to steep, well-drained soils on uplands. These soils have a loamy surface layer and a clayey subsoil. They have no major limitations for wood crops.

These soils are best suited to needleleaf trees. Species suitable for planting are slash pine and loblolly pine.

WOODLAND GROUP 3o7

McQueen silt loam is the only soil in this group. It is a deep, nearly level, well-drained soil on stream terraces. This soil has a loamy surface layer and a clayey subsoil. It has no major limitations for wood crops. Occasional flooding sometimes delays harvesting.

This McQueen soil is suited to both needleleaf and broadleaf trees. Species suitable for planting are loblolly pine, slash pine, yellow-poplar, and sycamore.

WOODLAND GROUP 3c8

Vaiden silty clay is the only soil in this group. It is a deep, nearly level, somewhat poorly drained soil on uplands and stream terraces. This soil has a clayey surface layer and subsoil.

The equipment limitation is moderate. Seedling mortality is moderate.

Species suitable for planting are loblolly pine and eastern redcedar.

WOODLAND GROUP 3s2

This group consists of deep, nearly level to steep, well-drained soils on uplands. These soils have a thick sandy surface layer and a loamy subsoil.

Seedling mortality is moderate. The equipment limitation is moderate.

These soils are best suited to needleleaf trees. Species suitable for planting are loblolly pine, slash pine, and longleaf pine.

WOODLAND GROUP 3s3

Alaga loamy sand, 0 to 5 percent slopes, is the only soil in this group. It is a deep, gently sloping, well drained to somewhat excessively drained soil on uplands. It has a sandy surface layer and subsoil.

The sandy texture of the soil makes the equipment limitation severe. A low available water capacity causes severe seedling mortality.

This soil is best suited to needleleaf trees. Species

suitable for planting are loblolly pine and longleaf pine.

WOODLAND GROUP 4c2c

Sumter clay, the only soil in this group, is a moderately deep, hilly, well-drained, alkaline soil on uplands. It has a clayey surface layer and subsoil.

The equipment limitation is moderate. Seedling mortality is moderate.

This soil has a limited species suitability. It is best suited to eastern redcedar.

WOODLAND GROUP 4f2

This group consists of deep, gently sloping to hilly, well drained and excessively drained soils on uplands. These soils have a gravelly sandy and loamy surface layer and subsoil.

The equipment limitation is moderate. Seedling mortality is moderate.

These soils are best suited to needleleaf trees. Species suitable for planting are loblolly pine and slash pine.

WOODLAND GROUP 4s3

This group consists of deep, nearly level, excessively drained to somewhat excessively drained soils on uplands and nearly level to gently sloping soils on stream terraces and flood plains. These soils have a thick sandy surface layer and a sandy and loamy subsoil.

The equipment limitation is severe. Seedling mortality is severe.

These soils are best suited to needleleaf trees. Species suitable for planting are loblolly pine and longleaf pine.

Wildlife Habitat [4]

The wildlife population of any area depends upon the availability of food, cover, and water in suitable combinations. Habitat is retained or created and maintained by establishing desirable vegetation and by developing water supplies in suitable places.

In table 4 each of the soils in Autauga County is rated according to its suitability for the elements that comprise wildlife habitat and also for three kinds of wildlife habitat—openland, woodland, and wetland. The ratings refer to only the suitability of the soil. They do not take into account present land use nor the distribution and density of wildlife and human population. The suitability of individual sites must be determined by onsite inspection.

Grain and seed crops refers to domestic grain or other seed-producing annuals that are commonly planted to produce food for wildlife. Examples are corn, sorghum, wheat, oats, barley, millet, cowpeas, soybeans, and sunflower.

Domestic grasses and legumes are perennial grasses and herbaceous legumes that are commonly planted to produce food or cover or both for wildlife. Examples are fescue, lovegrass, orchardgrass, clovers, alfalfa, and vetches.

Wild herbaceous plants are native or naturally established dryland herbaceous grasses and forbs, including weeds, that provide either food or cover or both for wildlife. Examples are goldenrod, beggarweed, milkpeas, ragweed, partridge-pea, pokeweed, crotons, fescues, and gramas.

Hardwood trees are nonconiferous trees and associated woody understory plants that provide either wildlife cover or produce nuts, buds, catkins, twigs, bark, or foliage used as food by wildlife.

Coniferous plants are cone-bearing trees, shrubs, or groundcover that furnish wildlife cover or supply food in the form of browse, seeds, or fruitlike cones. These plants are commonly established through natural processes, but they can be planted or transplanted. Examples are pines, cedar, and juniper.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist to wet sites. Submerged and floating aquatic plants are not included. These plants provide food or cover or both for wetland forms of wildlife. Examples are smartweed, wild millet, rushes, sedges, reeds, wildrice, cutgrass, cordgrass, and cattail.

Shallow water areas are areas of surface water that are useful to wildlife. Their average depth is less than 5 feet. They may be natural wet areas or those created by dams, levees, or other water-control devices in marshes or streams. Examples are muskrat marshes, waterfowl feeding areas, wildlife watering developments, wildlife ponds, and beaver ponds.

The suitability of the soils for producing three kinds of wildlife habitat—openland, woodland, and wetland—is shown in table 4.

Good means that habitat is easily improved, maintained, or created; that there are few or no soil limitations in habitat management; and that satisfactory results can be expected.

Fair means that habitat can be improved, maintained, or created on these soils; that moderate soil limitations affect habitat management or development; and that moderate intensity of management and fairly frequent attention may be required to insure satisfactory results.

Poor means that habitat can be improved, maintained, or created; that soil limitations are severe; that habitat management may be difficult and expensive and may require intensive effort. Results are questionable.

Very poor means that under the prevailing soil conditions, it is impractical to attempt to improve, maintain, or create habitat. Unsatisfactory results are probable.

Openland wildlife are birds and mammals of croplands, pastures, meadows, lawns, and areas overgrown with grasses, herbs, shrubs, and vines. Examples are bobwhite quail, meadowlark, field sparrow, killdeer, cottontail rabbit, mourning dove, and red fox.

Woodland wildlife are birds and mammals of wooded areas of either hardwood or coniferous trees and shrubs, or a mixture of both. Examples are wild turkey, woodcock, thrushes, vireos, woodpeckers, squirrels, gray fox, raccoon, and white-tailed deer.

Wetland wildlife are birds and mammals of swampy, marshy, or open water areas. Examples are ducks, geese, herons, shore birds, rails, kingfisher, muskrat, mink, beaver, and otter.

[4] ROBERT E. WATERS, biologist, Soil Conservation Service, helped prepare this section.

Engineering Uses of the Soils [5]

This section is useful to those who need information about soil used as structural material or as foundation upon which structures are built. Among those who can benefit from this section are planning commissions, town and city managers, land developers, engineers, contractors, and farmers.

Among properties of soils highly important in engineering are permeability, strength, compaction characteristics, soil drainage condition, shrink-swell potential, grain size, plasticity, and soil reaction. Also important are depth to the water table, depth to bedrock, and soil slope. These properties, in various degrees and combinations, affect construction and maintenance of roads, airports, pipelines, foundations for small buildings, irrigation systems, ponds and small dams, and systems for disposal of sewage and refuse.

Information in this section of the soil survey can be helpful to those who—

1. Select potential residential, industrial, commercial, and recreational areas.
2. Evaluate alternate routes for roads, highways, pipelines, and underground cables.
3. Seek sources of gravel, sand, or clay.
4. Plan farm drainage systems, irrigation systems, ponds, terraces, and other structures for controlling water and conserving soil.
5. Correlate performance of structures already built with properties of the kinds of soil on which they are built, for the purpose of predicting performance of structures on the same or similar kinds of soil in other locations.
6. Predict the trafficability of soils for cross-country movement of vehicles and construction equipment.
7. Develop preliminary estimates pertinent to construction in a particular area.

Most of the information in this section is presented in tables 5, 6, and 7, which show, respectively, several estimated soil properties significant in engineering; interpretations for various engineering uses; and results of engineering laboratory tests on soil samples.

This information, along with the soil map and other parts of this publication, can be used to make interpretations in addition to those given in tables 5 and 6, and it also can be used to make other useful maps.

This information, however, does not eliminate need for further investigations at sites selected for engineering works, especially works that involve heavy loads or that require excavations to a depth greater than those shown in the tables, generally a depth greater than 6 feet. Also, inspection of sites, especially the small ones, is needed because many delineated areas of a given soil mapping unit may contain small areas of other kinds of soil that have strongly contrasting properties and different suitabilities or limitations for soil engineering.

Some of the terms used in this soil survey have special meaning in soil science that may be unfamiliar to engineers. The Glossary defines many of these terms.

[5] M. F. HESTER, civil engineer, Soil Conservation Service, helped prepare this section.

Engineering Soil Classification Systems

USDA texture is determined by the relative proportions of sand, silt, and clay in soil material that is less than 2.0 millimeters in diameter. "Sand," "silt," "clay," and some of the other terms used in the USDA textural classification are defined in the Glossary.

The two systems most commonly used in classifying samples of soils for engineering are the Unified system used by the SCS engineers, Department of Defense (*11*), and others, and the AASHTO system adopted by the American Association of State Highway and Transportation Officials (*2*).

In the Unified system soils are classified according to particle-size distribution, plasticity, liquid limit, and organic-matter content. Soils are grouped in 15 classes. There are 8 classes of coarse-grained soils, identified as GW, GP, GM, GC, SW, SP, SM, and SC; 6 classes of fine-grained soils, identified as ML, CL, OL, MH, CH, and OH; and 1 class of highly organic soils, identified as Pt. Soils on the borderline between 2 classes are designated by symbols for both classes; for example, ML–CL.

The AASHTO system is used to classify soils according to those properties that affect use in highway construction and maintenance. In this system, a soil is placed in one of 7 basic groups ranging from A–1 through A–7 on the basis of grain-size distribution, liquid limit, and plasticity index. In group A–1 are gravelly soils of high bearing strength, or the best for subgrade (foundation). At the other extreme, in group A–7, are clay soils that have low strength when wet and that are the poorest soils for subgrade. Where laboratory data are available to justify a further breakdown, the A–1, A–2, and A–7 groups are divided as follows: A–1–a, A–1–b, A–2–4, A–2–5, A–2–6, A–2–7, A–7–5, and A–7–6. As additional refinement, the engineering value of a soil material can be indicated by a group number index. Group indexes range from 0 for the best material to 20 or more for the poorest. The AASHTO classification for the tested soils, with group index numbers in parentheses, is shown in table 7; the estimated classification, without group index numbers, is given in table 5 for all soils mapped in the survey area.

Soil Properties Significant in Engineering

Estimates of soil properties significant in engineering are shown in table 5. These estimates are made for typical soil profiles, by layers sufficiently different to have different significance in soil engineering. The estimates are based on field observations made in the course of mapping, on test data for these and similar soils, and on experience with the same kinds of soil in other counties. Depth to bedrock is not shown in the table because it is more than 6 feet in most of the soils in the county. Hard Selma Chalk, however, occurs in the lower part of the C horizon in many Sumter soils. Following are explanations of some of the columns in table 5.

Depth to the seasonal high water table is the distance from the surface of the soil to the highest level that ground water reaches in the soil in most years. The

TABLE 4.—*Potential of soils for elements*

Soil series and map symbols	Elements of wildlife habitat			
	Grain and seed crops	Domestic grasses and legumes	Wild herbaceous plants	Hardwood trees
Alaga: AaB	Poor	Fair	Fair	Poor
Altavista: AtA, AtB	Good	Good	Good	Good
Benndale: Be	Good	Good	Good	Good
Bibb: Bs	Poor	Fair	Fair	Fair
Blanton: Bt	Fair	Fair	Fair	Fair
Faceville: FaB	Good	Good	Good	Good
Flomaton: FSE[1]	Poor	Poor	Fair	Fair
Grady: Gr	Fair	Fair	Fair	Fair
Harleston: Ha	Good	Good	Good	Good
Jones: JcE, JSE[1]	Poor	Fair	Good	Fair
Lakeland:				
LaB	Poor	Poor	Fair	Poor
Lb	Very poor	Poor	Fair	Poor
Lucedale:				
LdA, LdB	Good	Good	Good	Good
LdC2	Fair	Good	Good	Good
Lucy: LhB	Poor	Fair	Good	Good
McQueen: Mc	Good	Good	Good	Good
Myatt: MY	Poor	Fair	Good	Fair
Norfolk: NfA, NkB, NkC	Good	Good	Good	Good
Ochrepts:				
OcB	Good	Good	Fair	Good
OcD	Very poor	Poor	Poor	Good
Osier: Ok	Very poor	Poor	Good	Fair
Pine Flat: PfB	Fair	Good	Fair	Fair
Rains: Ra	Poor	Fair	Good	Fair
Roanoke: Ro	Fair	Good	Good	Good
Ruston:				
RuA, RuB	Good	Good	Good	Good
RuC2	Fair	Good	Good	Good
Saffell: SaC	Fair	Good	Good	Good
Shubuta: SsE, STE[1]	Poor	Fair	Good	Good
Sumter: SVE	Fair	Fair	Fair	Good
Troup:				
TaB	Poor	Fair	Fair	Fair
TRE[1]	Poor	Poor	Fair	Fair
Vaiden: Va	Fair	Fair	Good	Good
Wickham:				
WaB, WsD	Fair	Good	Good	Good
WkA, WkB	Good	Good	Good	Good

[1] Potential is based on the dominant soil and slope in the mapping unit.

of wildlife habitat and kinds of wildlife

Elements of wildlife habitat—Continued			Kinds of wildlife		
Coniferous plants	Wetland plants	Shallow water areas	Openland	Woodland	Wetland
Poor	Very poor	Very poor	Fair	Poor	Very poor.
Good	Poor	Poor	Good	Good	Poor.
Good	Very poor	Very poor	Good	Good	Very poor.
Fair	Good	Good	Fair	Fair	Good.
Fair	Very poor	Very poor	Fair	Fair	Very poor.
Good	Poor	Very poor	Good	Good	Very poor.
Fair	Very poor	Very poor	Poor	Fair	Very poor.
Fair	Good	Good	Fair	Fair	Good.
Good	Poor	Poor	Good	Good	Poor.
Fair	Very poor	Very poor	Fair	Fair	Very poor.
Poor	Very poor	Very poor	Poor	Poor	Very poor.
Poor	Very poor	Very poor	Poor	Poor	Very poor.
Good	Poor	Very poor	Good	Good	Very poor.
Good	Very poor	Very poor	Good	Good	Very poor.
Good	Poor	Very poor	Fair	Good	Very poor.
Good	Poor	Good	Good	Good	Fair.
Fair	Good	Good	Fair	Fair	Good.
Good	Poor	Very poor	Good	Good	Very poor.
Good	Poor	Poor	Good	Good	Poor.
Good	Poor	Very poor	Poor	Good	Very poor.
Fair	Good	Good	Poor	Fair	Good.
Fair	Very poor	Very poor	Fair	Fair	Very poor.
Fair	Good	Good	Fair	Fair	Good.
Good	Fair	Good	Good	Good	Fair.
Good	Poor	Very poor	Good	Good	Very poor.
Good	Poor	Very poor	Good	Good	Very poor.
Good	Poor	Very poor	Good	Good	Very poor.
Good	Very poor	Very poor	Fair	Good	Very poor.
Fair	Very poor	Very poor	Fair	Good	Very poor.
Fair	Very poor	Very poor	Fair	Fair	Very poor.
Fair	Very poor	Very poor	Poor	Fair	Very poor.
Good	Good	Good	Fair	Good	Very poor.
Good	Very poor	Very poor	Good	Good	Very poor.
Good	Poor	Very poor	Good	Good	Very poor.

TABLE 5.—*Estimates of soil properties*

[An asterisk in the first column indicates that at least one mapping unit in this series is made up of two or more kinds of soil. fully the instructions for referring to other series that appear in the first column

Soil series and map symbols	Depth to seasonal high water table	Depth from surface	Dominant USDA texture	Classification	
				Unified	AASHTO
	Feet	*Inches*			
Alaga: AaB	>6	0–77	Loamy sand, sand	SM	A–2
Altavista: AtA, AtB	2.5	0–14	Loam	ML	A–4
		14–65	Clay loam	ML	A–6
Benndale: Be	5	0–6	Loamy fine sand	SM	A–2, A–4
		6–70	Sandy loam	SM	A–4, A–2
Bibb: Bs	0.75	0–37	Sandy loam	SM	A–2, A–4
		37–60	Silt loam	ML	A–4
Blanton: Bt	5	0–66	Loamy sand	SM	A–2
		66–90	Sandy loam	SM	A–2, A–4
Faceville: FaB	>6	0–5	Sandy clay loam	SC, SM	A–4, A–2
		5–65	Clay loam, sandy clay	ML, CL	A–4, A–6
*Flomaton: FSE	>6	0–60	Gravelly loamy sand and gravelly sand.	GM, GW–GM	A–1(b)
For Shubuta part of FSE, see Shubuta series.		60–88	Gravelly sandy loam	SM, SP–SM	A–2
Grady: Gr	0	0–7	Silt loam	ML	A–4
		7–60	Clay	CL	A–7
Harleston: Ha	2.0	0–7	Loamy fine sand	SM	A–2, A–4
		7–19	Fine sandy loam	SM, CL–ML	A–4, A–2
		19–65	Sandy clay loam	SM, CL–ML, SM	A–2, A–4
*Jones: JcE, JSE	>6	0–12	Sandy loam and loamy sand	SM	A–2
For Lucedale part of JcE, see Lucedale series. For Shubuta part of JcE and JSE, see Shubuta series.		12–52	Sandy loam	SM, SM–SC	A–2
		52–73	Loamy sand	SM, SP–SM	A–2
Lakeland: LaB, Lb	>6	0–7	Loamy sand	SM	A–2
		7–82	Sand	SM–SP	A–3
Lucedale: LdA, LdB, LdC2	>6	0–9	Fine sandy loam	SM	A–2
		9–94	Clay loam and sandy clay loam.	SM–SC, SC, CL	A–4
Lucy: LhB	>6	0–35	Loamy sand	SM	A–2
		35–80	Sandy loam	SM, SC	A–2, A–4
McQueen: Mc	6	0–8	Silt loam	ML	A–4
		8–34	Silty clay	ML, MH	A–7
		34–56	Clay loam and sandy clay loam.	ML	A–4
*Myatt: MY	0	0–17	Fine sandy loam and sandy loam.	SM, ML	A–2, A–4
For Bibb part of MY, see Bibb series.		17–41	Sandy clay loam	SC, CL	A–4, A–6
		41–60	Sandy loam	SM	A–2, A–4
Norfolk: NfA, NkB, NkC	>6	0–15	Loamy fine sand and sandy loam.	SM	A–2
		15–83	Sandy clay loam	SC	A–4
Ochrepts: OcB, OcD	>6	0–96	Loam, silty clay loam	ML	A–4

significant in engineering

The soils in such mapping units may have different properties and limitations, and for this reason it is necessary to follow care-of this table. The symbol > means more than; the symbol < means less than]

Percentage less than 3 inches passing sieve—				Permeability	Available water capacity	Reaction	Shrink-swell potential
No. 4 (4.7 mm)	No. 10 (2.0 mm)	No. 40 (0.42 mm)	No. 200 (0.074 mm)				
				Inches per hour	*Inches per inch of soil*	*pH*	
100	95–100	50–75	15–30	>6.0	0.05–0.09	4.5–5.5	Low.
95–100	95–100	85–95	60–75	2.0–6.0	0.11–0.13	5.6–7.3	Low.
95–100	95–100	90–97	50–70	0.60–2.0	0.12–0.14	5.1–6.0	Low.
----------	100	60–70	25–40	0.60–2.0	0.10–0.12	5.1–6.0	Low.
----------	100	60–70	30–40	0.60–2.0	0.12–0.14	4.5–5.5	Low.
95–100	90–100	60–70	30–40	0.60–2.0	0.12–0.18	4.5–5.5	Low.
100	90–100	80–100	60–90	0.60–2.0	0.12–0.20	4.5–5.5	Low.
100	95–100	50–75	15–30	6.0–20	0.05–0.10	5.1–6.0	Low.
100	95–100	60–70	30–40	2.0–6.0	0.10–0.15	4.5–5.5	Low.
100	95–100	80–97	27–50	0.60–2.0	0.09–0.12	5.1–6.0	Low.
95–100	95–100	60–100	50–70	0.60–2.0	0.10–0.13	5.0–5.5	Low to moderate.
30–80	30–75	20–50	5–25	6.0–20	0.01–0.05	4.5–6.0	Low.
80–90	80–90	25–50	5–25	6.0–20	0.02–0.07	4.5–6.0	Low.
----------	100	90–100	70–90	0.60–2.0	0.10–0.13	4.5–5.5	Low.
----------	100	90–100	65–80	<0.2	0.10–0.12	4.5–5.5	Moderate.
90–100	85–100	55–95	20–40	0.60–2.0	0.09–0.12	4.5–5.5	Low.
90–100	85–100	60–95	30–60	0.60–2.0	0.13–0.16	4.5–5.5	Low.
90–100	85–100	80–90	30–70	0.60–2.0	0.13–0.16	4.5–5.5	Low.
100	95–100	50–70	20–35	2.0–6.0	0.08–0.10	5.6–6.5	Low.
100	95–100	60–80	25–35	2.0–6.0	0.10–0.12	5.1–6.5	Low.
100	95–100	50–80	12–25	6.0–20	0.04–0.08	5.1–6.5	Low.
100	95–100	80–95	15–30	6.0–20	0.05–0.09	4.5–5.5	Low.
90–100	85–100	70–80	5–10	6.0–20	0.02–0.06	4.5–5.5	Low.
100	95–100	80–95	25–35	0.60–2.0	0.15–0.18	5.6–6.5	Low.
95–100	95–100	80–100	40–65	0.60–2.0	0.14–0.17	4.5–5.5	Low.
100	95–100	85–90	15–30	6.0–20	0.05–0.10	4.5–5.5	Low.
100	95–100	75–85	20–50	0.60–2.0	0.10–0.14	4.5–5.5	Low.
98–100	98–100	90–100	85–95	0.60–2.0	0.12–0.16	5.1–6.5	Low.
----------	100	100	90–95	0.06–0.20	0.14–0.18	4.5–5.5	Low to moderate.
----------	100	98–100	52–70	0.60–2.0	0.14–0.18	4.5–5.5	Low.
98–100	95–100	70–85	30–55	2.0–6.0	0.08–0.11	4.5–5.5	Low.
95–100	95–100	80–90	45–60	0.60–2.0	0.10–0.12	4.5–5.5	Low.
80–90	75–90	50–75	30–40	2.0–6.0	0.08–0.11	4.5–5.5	Low.
----------	100	50–75	16–30	2.0–6.0	0.06–0.08	4.5–5.5	Low.
100	95–100	80–90	36–48	0.60–2.0	0.12–0.15	4.5–5.5	Low.
----------	100	85–100	60–90	0.60–2.0	0.15–0.20	5.1–6.0	Low.

TABLE 5.—*Estimates of soil properties*

Soil series and map symbols	Depth to seasonal high water table	Depth from surface	Dominant USDA texture	Classification	
				Unified	AASHTO
	Feet	*Inches*			
*Osier: Ok	1	0–8	Sandy loam	SM	A–2
		8–57	Loamy sand and sand	SM, SP–SM	A–2
For Bibb part of Ok, see Bibb series.					
Pine Flat: PfB	>6	0–37	Sandy loam	SM	A–2
		37–56	Sandy clay loam	SM	A–4, A–2
		56–80	Sandy loam	SM	A–2
Rains: Ra	0.5	0–16	Fine sandy loam	SM	A–2
		16–60	Sandy clay loam	SC	A–4, A–6
Roanoke: Ro	0	0–10	Silty clay loam	ML	A–4
		10–31	Silty clay	CL	A–6, A–4
		31–72	Clay	ML	A–7, A–6
Ruston: RuA, RuB, RuC2	>6	0–17	Fine sandy loam and sandy loam.	SM	A–2
		17–56	Clay loam	SC, CL	A–6
		56–72	Sandy clay loam	SC, CL–ML, CL	A–4, A–6
Saffell: SaC	>6	0–13	Gravelly sandy loam	GM, SC, SM	A–2
		13–54	Gravelly sandy clay loam and gravelly clay loam.	SC, SM–SC, GM	A–2
		54–70	Sandy clay loam	SC	A–2, A–4
*Shubuta: SsE, STE	>6	0–4	Fine sandy loam	SM	A–2, A–4
		4–34	Clay and sandy clay loam	CL	A–6
		34–60	Sandy loam	SM	A–2
For Saffell part of SsE, see Saffell series.					
For Troup part of STE, see Troup series.					
*Sumter: SVE	>6	0–48	Clay	CH	A–7
For Faceville part of SVE, see Faceville series.					
For Vaiden part of SVE, see Vaiden series.					
Troup: TaB, TRE	>6	0–64	Loamy sand	SM	A–2
		64–80	Sandy loam	SM, SC	A–4
Vaiden: Va	2	0–6	Silty clay	CH	A–7
		6–54	Clay	CH	A–7
Wickham: WaB, WkA, WkB, WsD	>6	0–6	Fine sandy loam and loamy sand.	SM	A–4
		6–42	Clay loam, loam, sandy clay loam.	ML, SC, CL	A–4, A–6
		42–83	Loamy sand	SM	A–2

depth from the surface is for a modal profile and can vary slightly in other profiles.

Soil texture is described in table 5 in the standard terms used by the Department of Agriculture. Also the Unified and AASHTO textural classifications are listed.

Permeability is the quality that enables a soil to transmit water or air. It is estimated on the basis of those soil characteristics observed in the field, particularly structure and texture. The estimates in table 5 do not take into account lateral seepage or such transient soil features as plowpans and surface crusts.

Available water capacity is the ability of soils to hold water for use by most plants. It is commonly defined as the difference between the amount of water in the soil at field capacity and the amount at wilting point.

Reaction is the degree of acidity or alkalinity of a soil, expressed in pH values. The pH value and terms used to describe soil reaction are explained in the Glossary.

Shrink-swell potential is the relative change in volume to be expected of soil material with changes in moisture content, that is, the extent to which the soil

significant in engineering—Continued

Percentage less than 3 inches passing sieve—				Permeability	Available water capacity	Reaction	Shrink-swell potential
No. 4 (4.7 mm)	No. 10 (2.0 mm)	No. 40 (0.42 mm)	No. 200 (0.074 mm)				
				Inches per hour	*Inches per inch of soil*	*pH*	
	100	60–70	30–35	2.0–6.0	0.02–0.08	4.5–6.0	Low.
	100	95–100	10–15	2.0–6.0	0.02–0.05	4.5–6.0	Low.
95–100	95–100	75–90	25–35	2.0–6.0	0.05–0.10	4.5–6.0	Low.
95–100	95–100	80–90	30–40	2.0–6.0	0.08–0.12	4.5–6.0	Low.
95–100	95–100	75–90	25–35	2.0–6.0	0.08–0.10	4.5–6.0	Low.
	100	90–95	20–35	2.0–6.0	0.08–0.12	4.5–5.5	Low.
	100	80–90	36–50	0.60–2.0	0.10–0.14	4.5–5.5	Low.
	100	90–95	70–80	0.60–2.0	0.15–0.17	4.5–5.5	Low.
	100	90–95	70–80	<0.2	0.13–0.15	4.5–5.5	Moderate.
	100	90–98	80–90	<0.2	0.13–0.15	4.5–5.5	Moderate.
	100	60–70	30–35	0.60–2.0	0.14–0.16	5.1–6.0	Low.
95–100	95–100	80–95	36–65	0.60–2.0	0.15–0.17	4.5–5.5	Low.
95–100	95–100	80–95	36–55	0.60–2.0	0.15–0.17	4.5–5.5	Low.
50–80	40–70	20–30	15–30	0.60–2.0	0.12–0.14	5.1–6.0	Low.
60–80	50–75	25–35	20–35	0.60–2.0	0.13–0.15	4.5–5.5	Low.
90–100	85–98	70–88	30–50	0.60–2.0	0.13–0.15	4.5–5.5	Low.
95–100	95–100	90–95	25–45	0.60–2.0	0.12–0.14	4.5–5.5	Low.
95–100	95–100	80–100	60–75	0.2–0.60	0.14–0.17	4.5–5.5	Moderate.
95–100	95–100	60–70	30–35	0.60–2.0	0.11–0.14	4.5–5.5	Low.
	100	90–100	75–95	<0.2	0.10–0.15	7.4–8.4	High.
	100	50–75	15–30	6.0–20	0.05–0.10	4.5–5.5	Low.
	100	60–70	36–40	0.60–2.0	0.10–0.13	4.5–5.5	Low.
	100	95–100	90–95	0.06–0.2	0.10–0.15	4.5–5.5	Very high.
	100	90–100	75–95	<0.06	0.10–0.15	4.5–6.5	Very high.
	100	50–85	36–40	0.60–2.0	0.12–0.14	5.1–6.0	Low.
	100	80–90	36–80	0.60–2.0	0.12–0.15	4.5–5.5	Low.
	100	50–75	15–30	2.0–6.0	0.08–0.11	4.5–5.5	Low.

shrinks when dry or swells when wet. The extent of shrinking and swelling is influenced by the amount and kind of clay in the soil. Shrinking and swelling of soils cause much damage to building foundations, roads, and other structures. A *high* shrink-swell potential indicates a hazard to maintenance of structures built in, on, or with material having this rating.

Engineering Interpretations of Soils

The estimated interpretations in table 6 are based on the engineering properties of soils shown in table 5, on test data for soils in this survey area and others nearby or adjoining, and on the experience of engineers and soil scientists with the soils of Autauga County. In table 6, ratings summarize the limitation or suitability of the soils for topsoil, road fill, highway location, ponds and reservoirs, embankments, drainage of cropland and pasture, irrigation, terraces and diversions, and waterways. For these particular uses, table 6 lists those soil features not to be overlooked in planning, installation and maintenance.

TABLE 6.—*Engineering*

[An asterisk in the first column indicates that at least one mapping unit in this series is made up of two or more kinds of soil. The instructions for referring to other series

Soil series and map symbols	Suitability as source of—		Soil features affecting—	
	Topsoil	Road fill	Highway location	Farm ponds: Reservoir area
Alaga: AaB	Poor: sandy	Good	Soil features favorable.	Rapid seepage
Altavista: AtA, AtB	Fair: limited thickness of suitable material.	Fair: moderate traffic-supporting capacity.	High water table; hazard of flooding in low areas.	Soil features favorable.
Benndale: Be	Good	Good	Soil features favorable.	Moderate seepage
Bibb: Bs	Poor: poorly drained.	Poor: poorly drained.	High water table; frequent flooding.	Slow seepage; high water table.
Blanton: Bt	Poor: sandy	Good	Soil features favorable.	Rapid seepage
Faceville: FaB	Fair: clayey subsoil.	Fair: clayey subsoil.	Moderate traffic-supporting capacity.	Moderate permeability.
*Flomaton: FSE For Shubuta part of FSE, see Shubuta series.	Poor: coarse fragments; low productivity.	Good	Slope is 8 to 25 percent.	Rapid permeability
Grady: Gr	Poor: very poorly drained.	Poor: very poorly drained.	Ponding; high water table.	Soil features favorable.
Harleston: Ha	Poor: sandy	Good	High water table at a depth of 24 inches.	Moderate seepage
*Jones: JcE, JSE For Lucedale part of JcE, see Lucedale series. For Shubuta part of JSE and JcE, see Shubuta series.	Poor: slope	Good	Hilly topography	Rapid seepage
Lakeland:				
LaB	Poor: sandy	Good	Subject to infrequent flooding.	Rapid permeability
Lb	Poor: sandy	Good	Frequent flooding	Rapid permeability; frequent flooding.
Lucedale: LdA, LdB, LdC2	Good	Good	Soil features favorable.	Moderate seepage
Lucy: LhB	Poor: sandy	Good	Soil features favorable.	Moderate seepage

interpretations

soils in such mapping units may have different properties and limitations, and for this reason it is necessary to follow carefully the that appear in the first column of this table]

Soil features affecting—Continued				
Farm ponds—Continued: Embankment	Agricultural drainage	Irrigation	Terraces and diversions	Waterways
Rapid seepage; needs binder.	Well drained to somewhat excessively drained.	Rapid infiltration; low available water capacity.	Sandy; rapid permeability.	Highly erodible.
Low resistance to piping.	Moderate permeability; high water table; surface drainage needed.	Moderately well drained; moderate permeability.	Soil features favorable	Soil features favorable.
Moderate strength and stability; low resistance to piping; hazard of erosion.	Well drained	Moderate infiltration; moderate available water capacity.	Soil features favorable	Moderate permeability and available water capacity.
Moderate strength and stability.	High water table; moderate permeability; surface drainage needed.	High water table; moderate to high available water capacity.	Not needed	Not needed.
Rapid seepage; needs binder.	Somewhat excessively drained.	Rapid infiltration; low available water capacity.	Rapid and moderately rapid permeability; hazard of erosion.	Low available water capacity; rapid to moderately rapid permeability.
High strength and stability.	Well drained	Moderate infiltration	Soil features favorable	Soil features favorable.
Moderate resistance to piping; hazard of erosion.	Excessively drained	Rapid infiltration and permeability; very low available water capacity.	Rapid permeability; very low available water capacity.	Very low available water capacity; rapid permeability; gravelly.
Moderate shrink-swell potential.	Low position; poor natural outlets.	Very poorly drained; slow to very slow permeability.	Not needed	Not needed.
Fair stability; poor resistance to piping; hazard of erosion.	Moderate permeability	Moderate to high available water capacity; moderate infiltration.	Soil features favorable	Moderate permeability; moderate to high available water capacity.
Moderate strength and stability; poor resistance to piping; hazard of erosion.	Well drained	Moderately rapid infiltration.	Soil features favorable	Moderate to low available water capacity; moderately rapid permeability.
Loose, unstable sand; needs binder.	Excessively drained	Low available water capacity.	Rapid permeability; hazard of erosion.	Rapid permeability; hazard of erosion.
Loose, unstable sand; needs binder.	Excessively drained; frequent flooding.	Low available water capacity.	Rapid permeability; hazard of erosion; frequent flooding.	Rapid permeability; hazard of erosion; frequent flooding.
Needs binder	Well drained	Moderate infiltration	Soil features favorable	Soil features favorable.
Moderate permeability; poor resistance to piping; hazard of erosion.	Well drained	Rapid infiltration; low to moderate available water capacity.	Unstable; highly erodible.	Unstable; highly erodible.

TABLE 6.—*Engineering*

Soil series and map symbols	Suitability as source of—		Soil features affecting—	
	Topsoil	Road fill	Highway location	Farm ponds: Reservoir area
McQueen: Mc	Fair: limited thickness of suitable material.	Fair: moderate traffic-supporting capacity.	Moderate traffic-supporting capacity; possible flooding in some areas.	Sandy at a depth of 4.5 to 6 feet.
*Myatt: MY For Bibb part of MY, see Bibb series.	Poor: poorly drained.	Poor: poorly drained.	High water table; flooding.	Slow seepage
Norfolk: NfA	Poor: sandy	Good	Soil features favorable.	Moderate seepage
NkB, NkC	Good	Good	Soil features favorable.	Moderate seepage
Ochrepts: OcB, OcD	Good	Fair: moderate traffic-supporting capacity.	Flooding	Flooding
*Osier: Ok For Bibb part of Ok, see Bibb series.	Poor: sandy; poorly or very poorly drained.	Poor: high water table; flooding; poorly or very poorly drained.	Flooding; high water table.	Moderately rapid permeability; high water table.
Pine Flat: PfB	Good	Good	Soil features favorable.	Rapid seepage
Rains: Ra	Poor: poorly drained.	Poor: poorly drained.	Flooding; high water table.	Slow seepage; frequent flooding.
Roanoke: Ro	Poor: clayey subsoil; poorly drained.	Poor: low-traffic-supporting capacity; wet.	Flooding; high water table.	Wet
Ruston: RuA, RuB, RuC2	Good	Good	Soil features favorable.	Moderate seepage
Saffell: SaC	Poor: coarse fragments.	Good	Soil features favorable.	Moderate permeability.
*Shubuta: SsE, STE For Saffell part of SsE, see Saffell series. For Troup part of STE, see Troup series.	Fair: clayey subsoil.	Fair: moderate traffic-supporting capacity; moderate shrink-swell potential.	Susceptibility to sliding; unstable slopes; moderate shrink-swell potential.	Slow seepage
*Sumter: SVE For Faceville part of SVE, see Faceville series. For Vaiden part of SVE, see Vaiden series.	Poor: clayey	Poor: clayey; high shrink-swell potential; poor stability.	High shrink-swell potential; plastic; low traffic-supporting capacity.	Slow seepage

interpretations—Continued

Soil features affecting—Continued				
Farm ponds—Continued Embankment	Agricultural drainage	Irrigation	Terraces and diversions	Waterways
Poor resistance to piping.	Well drained	Soil features favorable	Soil features favorable	Soil features favorable.
Moderate strength and stability.	High water table; outlets difficult to locate.	Poorly drained; flooding; high water table; moderately rapid infiltration.	Not needed	Not needed.
High strength and stability.	Well drained	Moderately rapid infiltration; moderate permeability; low to moderate available water capacity.	Moderately erodible; soil features favorable.	Soil features favorable.
High strength and stability.	Well drained	Moderately rapid infiltration; moderate permeability; low to moderate available water capacity.	Moderately erodible; soil features favorable.	Soil features favorable.
Flooding; low strength and stability.	Well drained; flooding	Moderate infiltration	Not needed	Soil features favorable.
Poor resistance to piping; hazard of erosion.	Poorly or very poorly drained; high water table.	High water table; flooding.	Not needed	Not needed.
Moderate strength and slope stability; poor resistance to piping; hazard of erosion.	Well drained	Moderately rapid infiltration.	Soil features favorable	Soil features favorable.
Moderate strength and stability.	Poorly drained; flooding.	High water table	Not needed	Not needed.
Low strength; high compressibility.	Poorly drained; flooding; high water table.	High water table; flooding.	Poor outlets; wet	Not needed.
High strength and stability.	Well drained	Moderate infiltration; moderate permeability; moderate to high available water capacity.	Moderately erodible; soil features favorable.	Soil features favorable.
Fair stability; poor resistance to piping.	Well drained	Moderate infiltration and permeability.	Soil features favorable	Soil features favorable.
Low strength and stability.	Well drained	Moderately slow permeability; moderate infiltration; slope is 10 to 30 percent.	Highly erodible; soil features favorable.	Highly erodible; sod difficult to establish.
Low strength and stability; high shrink-swell potential.	Well drained	Slow infiltration; slow permeability; slope is 8 to 25 percent.	Highly erodible; difficult to work; slope is 8 to 25 percent.	Highly erodible; difficult to work; slope is 8 to 25 percent.

TABLE 6.—*Engineering*

Soil series and map symbols	Suitability as source of—		Soil features affecting—	
	Topsoil	Road fill	Highway location	Farm ponds: Reservoir area
Troup:				
TaB	Poor: sandy	Good	Soil features favorable.	Rapid seepage
TRE	Poor: sandy	Good	Slope is 8 to 25 percent; unstable.	Rapid seepage
Vaiden: Va	Poor: clayey	Poor: low strength and stability; very high shrink-swell potential.	Very high shrink-swell potential; plastic; low traffic-supporting capacity.	Slow seepage
Wickham:				
WaB, WkA, WkB	Fair: limited thickness of suitable material.	Good	Slopes easily eroded in deep cuts; occasional flooding in some low areas.	Moderately rapid permeability below a depth of 3.5 feet.
WsD	Fair: limited thickness of suitable material.	Good	Complex slopes, 5 to 17 percent; easily eroded cuts.	Complex slopes, 5 to 17 percent.

Soil limitations are indicated by the ratings slight, moderate, and severe. *Slight* means that soil properties are generally favorable for the rated use, or in other words, limitations that are minor and easily overcome. *Moderate* means that some soil properties are unfavorable but can be overcome or modified by special planning and design. *Severe* indicates soil properties so unfavorable and so difficult to correct or overcome that major soil reclamation, special designs, or intensive maintenance is required.

Soil suitability is expressed as *good, fair,* and *poor,* which have, respectively, meanings approximately parallel to the terms slight, moderate, and severe.

Following are explanations of columns in table 6.

Topsoil is used for topdressing an area where vegetation is to be established and maintained. The ratings in table 6 provide information about the suitability of available sources. Suitability is affected mainly by ease of working and spreading the soil material, as in preparing a seedbed; natural fertility of the material, or the response of plants when fertilizer is applied to the soil; and absence of substances toxic to plants. Texture of the soil material and its content of fragments of stone are characteristics that affect suitability, but also considered in the ratings is damage that can result at the area from which topsoil is taken.

Road fill is soil material used in embankments for roads. The suitability ratings reflect the predicted performance of soil after it has been placed in an embankment that has been properly compacted and adequately drained and the relative ease of excavating the material at borrow areas.

Some of the soil features that need to be considered in locating a highway are depth to rock, depth to water table, the hazards of flooding and erosion, shrink-swell potential, traffic supporting capacity, and slope.

Pond reservoir areas hold water behind a dam or embankment. Soils suitable for pond reservoir areas have low seepage, which is related to their permeability and depth to fractures or permeable bedrock or other permeable material.

Embankments, dikes, and levees require soil material resistant to seepage and piping and of favorable stability, shrink-swell potential, shear strength, and compactibility. Stones or organic material in a soil are among factors that are unfavorable.

Drainage of cropland and pasture is affected by such soil properties as permeability, texture, and structure; depth to claypan, rock, or other layers that influence rate of water movement; depth to the water table; slope; stability in ditchbanks; susceptibility to stream overflow; salinity or alkalinity; and availability of outlets for drainage.

Irrigation of a soil is affected by such features as slope; susceptibility to stream overflow, water erosion, or soil blowing; soil texture; content of stones; accumulations of salts and alkali; depth of root zone; rate of water intake at the surface; permeability of soil layers below the surface layer and in fragipans or other layers that restrict movement of water; amount of water held available to plants; need for drainage; and depth to water table or bedrock.

Terraces and diversions are embankments, or ridges, constructed across the slope to intercept runoff so that it soaks into the soil or flows slowly to a prepared outlet. Features that affect suitability of a soil for terraces are uniformity and steepness of slope; depth to bedrock or other unfavorable material;

interpretations—Continued

Soil features affecting—Continued				
Farm ponds—Continued Embankment	Agricultural drainage	Irrigation	Terraces and diversions	Waterways
Rapid seepage; needs binder.	Well drained	Slope is 2 to 8 percent; low available water capacity.	Unstable soil; hazard of erosion.	Unstable soil; hazard of erosion.
Rapid seepage; needs binder.	Well drained	Slope is 8 to 25 percent; low available water capacity.	Unstable soil; hazard of erosion.	Unstable soil; hazard of erosion.
Low strength and stability; very high shrink-swell potential.	Surface drainage needed in level areas; very slow permeability.	Slow intake rate and very slow permeability.	Highly erodible; soil difficult to work.	Soil difficult to work; highly erodible.
Moderate strength and stability.	Well drained	Soil features favorable	Soil features favorable	Soil features favorable.
Moderate strength and stability.	Well drained	Irregular surface features and complex slope pattern.	Irregular surface features and complex slope pattern.	Irregular surface features and complex slope pattern.

stones; permeability; and resistance to water erosion, soil slipping, and soil blowing. A soil suitable for these structures provides outlets for runoff and is not difficult to vegetate.

Waterways are natural or constructed outlets, shaped or graded and established in suitable vegetation to dispose of runoff from an area. Features that affect suitability of a soil for waterways are erodibility, available water capacity, permeability, texture, slope, and wetness.

Engineering Test Data

Samples of selected layers taken from five soil profiles representing five soil series in Autauga County were tested in the laboratory of the Alabama State Highway Department, Bureau of Materials and Tests. Results of these tests are shown in table 7. All samples were obtained at a depth of less than 8 feet. Therefore, the data in table 7 may not be adequate for estimating characteristics of soil material in deeper cuts.

Table 7 also gives compaction, or moisture-density, data for the tested soils. If soil material is compacted at successively higher moisture content, assuming that the compactive effort remains constant, the density of the compacted material increases until the optimum moisture content is reached. After that, the density decreases with increase in moisture content. The moisture content at which maximum dry density is obtained is the optimum moisture content. Moisture-density data are important in earthwork, for as a rule, optimum stability is obtained if the soil is compacted to about the maximum dry density when it is at approximately the optimum moisture content.

The engineering soil classifications in table 7 are based on data obtained by mechanical analyses and by tests to determine the liquid limits and plastic limits. Mechanical analyses were made by combined sieve and hydrometer methods. The percentages of clay obtained by the hydrometer methods should not be used in naming textural classes of soils.

The tests for liquid limit and plastic limit measure the effect of water on the consistence of the soil material. As the moisture content of a clayey soil increases from a very dry state, the material changes from a semisolid to a plastic state. As the moisture content is further increased, the material changes from a plastic to a liquid state. The plastic limit is the moisture content at which the soil material passes from a semisolid to a plastic state. The liquid limit is the moisture content at which the material passes from a plastic to a liquid state. The plasticity index is the numerical difference between the liquid limit and the plastic limit. It indicates the range of moisture content within which a soil material is in a plastic condition.

Town and Country Planning

Autauga County is north of the city of Montgomery and is easily reached from major highways. Along with a steadily expanding population into areas formerly used for farming is an increasing demand for housing, shopping centers, schools, parks, and other developments.

This section was prepared chiefly for planners, builders, landscape architects, zoning officials, private

TABLE 7.—*Engineering*

[Tests were performed by the

Soil name and location	Parent material	Report number	Depth	Moisture-density [1]	
				Maximum dry density	Optimum moisture content
			Inches	*Lb/cu ft*	*Percent*
Faceville sandy clay loam: SE¼NE¼SE¼NW¼ sec. 2, T. 17 N., R. 13 E. Modal.	Unconsolidated thick beds of sandy clay loam, clay loam, and sandy clay marine deposits.	S70Ala-1-			
		7-1	0-5	118	10
		7-2	5-34	106	16
		7-3	54-80	100	21
Lucedale fine sandy loam: 1 mile west of Autaugaville, NE¼SE¼NE¼ sec. 19, T. 17 N., R. 16 E. Modal.	Unconsolidated thick beds of sandy loam and sandy clay loam marine deposits.	S69Ala-1-			
		2-1	0-8	122	9
		2-3	17-70	118	13
McQueen silt loam: 800 yards west of north end of bridge crossing Alabama River on U.S. Highway 31, SW¼SW¼NW¼ sec. 36, T. 17 N., R. 16 E. Modal.	Unconsolidated silt loam and silty clay stream deposits.	S70Ala-1-			
		2-1	0-8	97	19
		2-2	20-34	96	21
		2-3	56-70	111	14
Pine Flat sandy loam: 3 miles southwest of Autaugaville, SE¼NW¼NW¼SW¼ sec. 4, T. 16 N., R. 14 E. Modal.	Unconsolidated thick beds of sandy and loamy marine deposits.	S70Ala-1-			
		5-1	0-9	117	11
		5-2	20-46	119	12
		5-3	46-76	121	11
Roanoke silty clay loam: 0.5 mile west of G.M.O. Railroad, NW¼NW¼SE¼ sec. 27, T. 17 N., R. 16 E. Modal.	Unconsolidated beds of silty and clayey stream terrace deposits.	S70Ala-1-			
		1-1	0-10	100	19
		1-2	10-31	105	17
		1-3	31-54	99	17
		1-4	54-72	99	19

[1] Based on AASHTO Designation: T 99-61, Method A (*2*).

[2] Mechanical analysis according to AASHTO Designation: T 88-61 (*2*). Results by this procedure may differ somewhat from results obtained by the soil survey procedure of the Soil Conservation Service (SCS). In the AASHTO procedure, the fine material is analyzed by the hydrometer method and the various grain-size fractions are calculated on basis of all the material, including that coarser than 2 millimeters in diameter. In the SCS soil survey procedure, the fine material is analyzed by the pipette method and the material coarser than 2 millimeters in diameter is excluded from calculations of grain-size fractions. The mechanical analysis data used in this table are not suitable for naming textural classes for soils.

and potential landowners, and others interested in the use of soils for purposes other than farming. Table 8 shows the degree and kind of limitation of each soil in the county for specified nonfarm purposes.

The suitability of the soils must be determined in selecting a site for a residence, a highway, an industry, a recreational use, or other purpose. Among the important properties considered are texture, reaction, depth, shrink-swell potential, slope, permeability, depth to the water table, and the flood hazard.

The degrees of limitation shown in table 8 are noted as slight, moderate, and severe. *Slight* means that few or no adjustments are needed. *Moderate* means that some adjustment is needed to make the soil suitable for a specified use. *Severe* means that extensive adjustments are needed.

Flooding, as mentioned in table 8, refers to the hazard of stream overflow or to flooding caused by runoff or seepage. The degree of the limitation caused by flooding expresses the frequency of flooding and the length of time that water remains on the surface.

In the paragraphs that follow, each nonfarm use is defined and the properties important in determining the limitations of the soils for such use are given. This information can be used along with table 6, with information in other parts of the survey, and with the soil map at the back of the survey, as a guide in planning the use of the soils for nonfarm purposes. Site investigation is needed before construction.

Residences and low buildings, as rated in table 8, are not more than three stories high and are supported by foundation footings placed in undisturbed soil. The

test data

Alabama State Highway Department]

Mechanical analysis[3]						Liquid limit	Plasticity index	Classification	
Percentage passing sieve—					Percentage smaller than 0.005 mm				
1 in.	No. 4 (4.7 mm)	No. 8 (2.4 mm)	No. 40 (0.42 mm)	No. 200 (0.074 mm)				AASHTO[3]	Unified
						Percent			
----------	----------	100	97	27	14	----------	NP[4]	A-2-4(0)	SM
----------	----------	100	98	50	42	31	3	A-4(2)	ML
----------	----------	100	98	53	45	36	3	A-4(3)	ML
----------	----------	100	82	26	15	12	NP	A-2-4(0)	SM
100	99	99	84	41	27	25	4	A-4(1)	SM-SC
100	99	99	98	87	45	35	6	A-4(9)	ML
----------	----------	----------	100	95	42	46	15	A-7-5(18)	ML
----------	----------	100	98	54	33	31	4	A-4(3)	ML
100	99	99	85	26	13	----------	NP	A-2-4(0)	SM
100	99	99	88	40	29	22	3	A-4(0)	SM
----------	----------	100	87	30	24	19	NP	A-2-4(0)	SM
----------	----------	100	91	73	48	34	9	A-4(6)	ML
----------	----------	100	91	74	59	33	11	A-6(7)	CL
----------	----------	100	93	81	68	45	17	A-7-6(16)	ML
----------	----------	100	96	90	59	39	11	A-6(12)	ML

[3] Based on AASHTO Designation: M 145-49 (*2*).

[4] Nonplastic.

features that affect the rating of a soil for dwellings are those that relate to capacity to support load and resist settlement under load, and those that relate to ease of excavation. Soil properties that affect capacity to support load are wetness, susceptibility to flooding, density, plasticity, texture, and shrink-swell potential. Those that affect excavation are wetness, slope, depth to bedrock, and content of stones and rocks.

Septic tank absorption fields are subsurface systems of tile or perforated pipe that distribute effluent from a septic tank into natural soil. The soil material from a depth of 18 inches to 6 feet is evaluated. The soil properties considered are those that affect both absorption of effluent and construction and operation of the system. Properties that affect absorption are permeability, depth to water table or rock, and susceptibility to flooding. Slope is a soil property that affects difficulty of layout and construction and also increases the risk of soil erosion, lateral seepage, and downslope flow of effluent. Large rocks or boulders increase construction costs.

Sewage lagoons are shallow ponds constructed to hold sewage within a depth of 2 to 5 feet long enough for bacteria to decompose the solids. A lagoon has a nearly level floor and sides, or embankments, of compacted soil material. It is assumed that the embankment is compacted to medium density and the pond is protected from flooding. The properties considered are those that affect the pond floor and the embankment. Among those that affect the pond floor are permeability, organic-matter content, and slope. If the floor needs to be leveled, the depth to bedrock is important.

TABLE 8.—*Degree and kind of soil*

Soil series and map symbols	Residences and low buildings	Septic tank absorption fields	Sewage lagoons
Alaga: AaB	Slight	Slight[3]	Severe: rapid permeability.
Altavista: AtA	Moderate: high water table.	Severe: high water table; flooding in low areas.	Severe: high water table; flooding in low areas.
AtB	Moderate: high water table.	Severe: high water table	Severe: high water table
Benndale: Be	Slight	Slight	Moderate: moderate permeability.
Bibb: Bs	Severe: high water table; flooding.	Severe: high water table; flooding.	Severe: flooding; high water table.
Blanton: Bt	Slight	Moderate: high water table.	Severe: rapid and moderately rapid permeability.
Faceville: FaB	Slight	Slight	Moderate: moderate permeability; slope.
Flomaton: FSE[3]	Moderate and severe: slope.	Moderate and severe: slope.	Severe: slope
Grady: Gr	Severe: high water table; ponding.	Severe: high water table; ponding.	Severe: high water table
Harleston: Ha	Moderate: wet	Severe: high water table	Severe: high water table
Jones: JcE,[3] JSE[3]	Moderate and severe: slope.	Moderate and severe: slope.	Severe: slope
Lakeland: LaB	Severe: flooding	Severe: flooding	Severe: flooding; rapid permeability.
Lb	Severe: flooding	Severe: flooding	Severe: flooding; rapid permeability.
Lucedale: LdA	Slight	Slight	Moderate: moderate permeability.
LdB	Slight	Slight	Moderate: moderate permeability; slope.
LdC2	Slight	Slight	Moderate and severe: slope.
Lucy: LhB	Slight	Slight	Moderate: moderate permeability.
McQueen: Mc	Severe: flooding	Severe: flooding; slow permeability.	Slight
Myatt: MY	Severe: flooding; high water table.	Severe: flooding; high water table.	Severe: flooding
Norfolk: NfA	Slight	Slight	Moderate: moderate permeability.

limitations for town and country planning

Local roads and streets	Sanitary landfill [1] (trench type)	Camp and picnic areas	Playgrounds	Paths and trails
Slight	Severe: rapid permeability.	Moderate: loamy sand surface layer.	Moderate: loamy sand surface layer; slopes greater than 2 percent.	Moderate: loamy sand surface layer.
Moderate: high water table; flooding in low areas.	Severe: high water table.	Moderate: wet	Moderate: wet	Moderate: wet.
Moderate: high water table.	Severe: high water table.	Moderate: wet	Moderate: wet; slope	Moderate: wet.
Slight	Slight	Slight	Slight	Slight.
Severe: flooding; wet	Severe: poor drainage; flooding.	Severe: flooding; wet	Severe: flooding; wet	Severe: flooding; wet.
Slight	Moderate: high water table.	Moderate: loamy sand surface layer.	Moderate: loamy sand surface layer.	Moderate: loamy sand surface layer.
Moderate: moderate permeability; slope.	Moderate: low strength.	Moderate: sandy clay	Moderate: sandy clay loam surface layer.	Moderate: sandy clay loam surface layer.
Moderate and severe: slope.	Severe: rapid permeability; slopes greater than 15 percent.	Moderate and severe: slope.	Severe: slope	Slight to moderate: slope.
Severe: high water table; ponding.	Severe: high water table; ponding.	Sever: high water table; ponding.	Severe: high water table; ponding.	Severe: high water table; ponding.
Moderate: wet	Severe: high water table.	Slight	Slight	Slight.
Moderate and severe: slope.	Slight to moderate: slope.	Moderate and severe: slope.	Severe: slope	Slight to moderate: slope.
Severe: flooding	Severe: flooding; rapid permeability.	Moderate: loamy sand surface layer.	Moderate: slope; loamy sand surface layer.	Moderate: loamy sand surface layer.
Severe: flooding	Severe: flooding	Severe: flooding	Severe: flooding	Severe: flooding.
Slight	Slight	Slight	Slight	Slight.
Slight	Slight	Slight	Moderate: slope	Slight.
Slight	Slight	Slight	Severe: slope	Slight.
Slight	Slight	Moderate: loamy sand surface layer.	Moderate: slope greater than 2 percent; loamy sand surface layer.	Moderate: loamy sand surface layer.
Moderate and severe: low strength; flooding.	Severe: flooding	Moderate: slow permeability.	Slight	Slight.
Severe: flooding; high water table.	Severe: flooding	Severe: flooding	Severe: flooding	Severe: flooding.
Slight	Slight	Slight	Slight	Slight.

TABLE 8.—*Degree and kind of soil limitations*

Soil series and map symbols	Residences and low buildings	Septic tank absorption fields	Sewage lagoons
NkB	Slight	Slight	Moderate: moderate permeability; slope.
NkC	Slight	Slight	Moderate: slope; moderate permeability.
Ochrepts:			
OcB	Severe: flooding	Severe: flooding	Severe: flooding
OcD	Severe: flooding; slope greater than 15 percent.	Severe: flooding; slope greater than 15 percent.	Severe: flooding; slope greater than 15 percent.
Osier: Ok	Severe: flooding; high water table.	Severe: flooding; high water table.	Severe: flooding; high water table.
Pine Flat: PfB	Slight	Slight	Severe: moderately rapid permeability.
Rains: Ra	Severe: flooding; high water table.	Severe: flooding; high water table.	Severe: flooding; high water table.
Roanoke: Ro	Severe: flooding; high water table.	Severe: flooding; high water table; slow permeability.	Severe: flooding; high water table.
Ruston:			
RuA	Slight	Slight	Moderate: moderate permeability.
RuB	Slight	Slight	Moderate: moderate permeability; slope.
RuC2	Slight	Slight	Moderate and severe: slope.
Saffell: SaC	Slight	Slight	Moderate: moderate permeability; slope.
Shubuta:			
SsE[3]	Moderate and severe: slope.	Moderate and severe: slope.	Severe: slope
STE[3]	Moderate and severe: slope.	Moderate and severe: slope.	Severe: slope
Sumter: SVE[3]	Severe: slope; high shrink-swell potential.	Severe: slope; slow permeability.	Severe: slope
Troup:			
TaB	Slight	Slight[2]	Severe: moderate and rapid permeability.
TRE	Severe: slope	Severe: slope	Severe: slope
Vaiden: Va	Severe: very high shrink-swell potential.	Severe: very slow permeability.	Slight

for town and country planning—Continued

Local roads and streets	Sanitary landfill [1] (trench type)	Camp and picnic areas	Playgrounds	Paths and trails
Slight	Slight	Slight	Moderate: slope	Slight.
Slight	Slight	Slight	Severe: slope	Slight.
Severe: flooding	Severe: flooding	Severe: flooding	Severe: flooding	Severe: flooding.
Severe: flooding; slope greater than 15 percent.	Severe: flooding	Severe: flooding; slope greater than 15 percent.	Severe: flooding; slope greater than 15 percent.	Severe: flooding.
Severe: flooding; high water table.	Severe: flooding; high water table.	Severe: flooding; high water table.	Severe: flooding; high water table.	Severe: flooding; high water table.
Slight	Slight	Slight	Slight to moderate: slope.	Slight.
Severe: flooding; high water table.	Severe: flooding; high water table.	Severe: flooding; high water table.	Severe: flooding; high water table.	Severe: flooding; high water table.
Severe: flooding; wet	Severe: flooding; wet	Severe: flooding; wet	Severe: flooding; wet	Severe: flooding; wet.
Slight	Slight	Slight	Slight	Slight.
Slight	Slight	Slight	Moderate: slope	Slight.
Slight	Slight	Slight	Severe: slope	Slight.
Slight	Slight	Moderate: coarse fragments.	Moderate: slope; coarse fragments.	Moderate: coarse fragments.
Moderate and severe: slope.	Moderate and severe: slope.	Moderate and severe: slope.	Severe: slope	Moderate and severe: slope.
Moderate and severe: slope.	Slight and moderate: slope.	Moderate and severe: slope.	Severe: slope	Slight and moderate: slope.
Severe: slope; high shrink-swell potential; low traffic-supporting capacity.	Severe: slope; clayey	Severe: slope; clayey surface layer.	Severe: slope; clayey surface layer.	Severe: clayey surface layer.
Slight	Severe: moderate and rapid permeability.	Moderate: loamy sand surface layer.	Moderate and severe: slope; loamy sand surface layer.	Moderate: loamy sand surface layer.
Severe: slope	Severe: slope; moderate and rapid permeability.	Moderate: slope; loamy sand surface layer.	Severe: slope	Moderate: slope; loamy sand surface layer.
Severe: very high shrink-swell potential; low traffic-supporting capacity.	Severe: clayey	Severe: wetness; very slow permeability; clayey surface layer.	Severe: wetness; clayey surface layer; very slow permeability.	Severe: clayey surface layer; wet.

TABLE 8.—*Degree and kind of soil limitations*

Soil series and map symbols	Residences and low buildings	Septic tank absorption fields	Sewage lagoons
Wickham:			
WaB	Slight[1]	Slight[1]	Moderate: moderate and moderately rapid permeability.
WkA	Slight[1]	Slight[1]	Moderate: moderate and moderately rapid permeability.
WkB	Slight[1]	Slight[1]	Moderate: moderate and moderately rapid permeability.
WsD	Moderate:[1] slope	Moderate:[1] slope	Severe: slope

[1] Onsite study is needed of the underlying strata and water table to determine the hazards of aquifer pollution and drainage into ground water in landfill deeper than 5 or 6 feet.

[2] Possible contamination of underground water.

The soil properties that affect the embankment are the engineering properties of the embankment material as interpreted from the Unified Soil Classification and the number of stones, if any, that influences the ease of excavation and compaction of the embankment material.

Local roads and streets, as rated in table 8, have an all-weather surface expected to carry automobile traffic all year. They have a subgrade of underlying soil material; a base consisting of gravel, crushed rock, or soil material stabilized with lime or cement; and a flexible or rigid surface, commonly asphalt or concrete. These roads are graded to shed water and have ordinary provisions for drainage. They are built mainly from soil at hand, and most cuts and fills are less than 6 feet deep.

Soil properties that most affect design and construction of roads and streets are load-supporting capacity and stability of the subgrade, and the workability and quantity of cut and fill material available. The AASHTO and Unified classifications of the soil material and the shrink-swell potential indicate traffic-supporting capacity. Wetness and flooding affect stability of the material. Slope, depth to hard rock, content of stones and rocks, and wetness affect ease of excavation and amount of cut and fill needed to reach an even grade.

Trench type sanitary landfill is a method of disposing of refuse in dug trenches. The waste is spread in thin layers, compacted, and covered with soil throughout the disposal period. Landfill areas are subject to heavy vehicular traffic. Some soil properties that affect suitability for landfill are ease of excavation, hazard of polluting ground water, and trafficability. The best soils have moderately slow permeability, withstand heavy traffic, and are friable and easy to excavate. Unless otherwise stated, the ratings in table 8 apply only to a depth of about 6 feet; therefore, limitation ratings of *slight* or *moderate* may not be valid if trenches are to be much deeper. For some soils, reliable predictions can be made to a depth of 10 or 15 feet, but regardless of that, every site should be investigated before it is selected.

Camp and picnic areas are used for tents, small camp trailers, outdoor meals, and the accompanying activities of outdoor living. Little preparation of the site is required, other than shaping and levelling for tent and parking areas. Camp and picnic areas are subject to heavy foot traffic and limited vehicular traffic. The best soils have mild slopes, good drainage, and a surface free of rocks and coarse fragments; are free from flooding during periods of heavy use; and have a surface that is firm after rain but not dusty when dry.

Playgrounds are areas used intensively for baseball, football, badminton, and similar organized games. Soils suitable for this use must withstand intensive foot traffic. The best soils have a nearly level surface free of coarse fragments and rock outcrops, have good drainage, are free from flooding during periods of heavy use, and have a surface that is firm after rain but not dusty when dry. If grading and leveling are required, depth to rock is important.

Paths and trails are used for local and cross-country travel on foot or horseback. Design and layout should require little or no cutting and filling. The best soils are at least moderately well drained, are firm when wet but not dusty when dry, are flooded no more than once during the season of use, have slopes of less than 15 percent, and have few or no rocks or stones on the surface.

Formation and Classification of the Soils

This section describes the major factors of soil formation and explains how these factors have affected the soils of Autauga County. It also defines the system of soil classification currently used and classifies the soils of the county according to that system.

for town and country planning—Continued

Local roads and streets	Sanitary landfill [3] (trench type)	Camp and picnic areas	Playgrounds	Paths and trails
Slight	Slight [4]	Slight	Slight to moderate: slope.	Slight.
Slight	Slight [4]	Slight	Slight	Slight.
Slight	Slight [4]	Slight	Slight	Slight.
Moderate: [4] slope	Slight	Moderate: slope	Severe: slope	Slight to moderate: slope.

[3] Ratings based on dominant soil conditions.

[4] Severe in areas subject to flooding.

Formation of the Soils

Soil is the product of the interaction of parent material, climate, relief, plant and animal life, and time. The relative importance of these factors differs from place to place. The effect of any one of the soil-forming factors is modified to some degree by all of the others. The five factors of soil formation are defined in the paragraphs that follow.

Parent material.—Parent material is the unconsolidated mass from which a soil forms. It is largely responsible for the chemical and mineral composition of the soil, which often determines the effectiveness of the weathering and, in some instances, partly controls the kind of vegetation that grows.

The parent material of soils in Autauga County is of three major kinds: (1) material weathered from unconsolidated beds of sand, silt, and clay of the Coastal Plain; (2) material transported by water or gravity and laid down as unconsolidated deposits of sand, silt, and clay; and (3) material weathered from Selma Chalk (*1*).

The soils on uplands in the northern part of the county formed in material weathered from unconsolidated beds of sand, silt, and clay of the Coastal Plain. This material is extremely variable and highly stratified and ranges from sand to clay. Examples of soils formed in this material are Lucedale, Shubuta, and Troup soils.

The soils on stream terraces and first bottoms formed in material transported by water and laid down as unconsolidated deposits of sand, silt, or clay. Some of this material came from nearby uplands, and some came from a great distance. This alluvial material varies in texture and reaction. Soils formed in alluvium range from sand to clay and from slightly to very strongly acid in reaction.

The soils on uplands in the Blackland Prairie part of the county formed in material weathered from Selma Chalk (*1*). These soils are fine textured, very plastic, slowly permeable, and alkaline.

Climate.—Autauga County has a moist, temperate climate. Rainfall is abundant. It amounts to about 53 inches a year, and it is well distributed throughout the year. Summers are long and hot. Winters are fairly short and mild, but short cold spells are not uncommon. The soils are frozen to a shallow depth for only short periods. The climate is uniform throughout the county. Differences among the soils, therefore, are not caused by the climate.

Relief.—Relief influences soil formation through its effect on runoff and erosion, movement of water within the soil, plant cover, and, to some extent, soil temperature. The soils in Autauga County range from nearly level to steep. As the slope increases, runoff increases in intensity, less water is absorbed, leaching is decreased, and the hazard of erosion becomes greater.

Because runoff is more rapid on steep slopes than on level ones, steep soils erode more rapidly than level ones. The steep Shubuta soils on hillsides, for example, are not so deep as those on the smoother ridgetops.

Plant and animal life.—Trees, grasses, earthworms, micro-organisms, and other forms of plant and animal life on and in the soil contribute to the formation of soils. Plants supply organic matter, and their roots form channels through which air and percolating water move. Animals constantly mix the soil material. Organisms are active in the decay of organic matter, the fixing of nitrogen, and the weathering of rock.

The native vegetation on the well-drained, well-developed soils in the county was a forest of hardwoods and pine. On the less well-drained, weakly developed alkaline soils on the Blackland Prairie, the original vegetation was chiefly grasses, but included some cedars. The leaves of deciduous trees supply more organic matter to the soil than those of coniferous trees. They also generally contain a larger amount of bases than those of coniferous trees and therefore return a larger amount of bases and phosphorus to the soil. For this reason, soils that formed chiefly under grasses generally are darker colored than soils that formed under trees.

In Autauga County the soils on uplands and terraces

that formed under trees have a highly leached A horizon and a well-defined, clay-enriched B horizon. The alkaline soils in the Blackland Prairie that formed under grasses have weakly defined horizons. They do not have a highly leached A horizon and a clay-enriched B horizon.

Time.—Time is required for the formation of soils that have distinct horizons. The length of time needed for the formation of a profile depends on many factors, one of which is the kind of parent material. Fine-textured parent material forms into a soil more slowly than coarse-textured parent material. Generally, less time is needed for a soil to form in a humid, warm region where the vegetation is luxuriant, than in a dry or cold region where the vegetation is scanty.

The soils in Autauga County range from young soils that have little or no profile formation to old soils that have a well-defined profile. Ochrepts are examples of young soils. These soils formed in alluvium on first bottoms. The soil material has been in place for only a short time, and the soil-forming factors have not changed it enough to form a profile that has well-defined, genetically related horizons. McQueen soils are examples of older soils. They have a well-defined profile that has genetically related horizons. They formed in parent material similar to that of Ochrepts, but have a leached A horizon and a clay-enriched silty clay B horizon. The soil material in their profile bears little resemblance to the original parent material.

Classification of the Soils

Soils are classified so that we can more easily remember their significant characteristics. Classification enables us to assemble knowledge about the soils, to see their relationship to one another and to the whole environment, and to develop principles that help us to understand their behavior and their response to manipulation. First through classification, and then through use of soil maps, we can apply our knowledge of soils to specific fields and other tracts of land.

The narrow categories of classification, such as those used in detailed soil surveys, allow us to organize and apply knowledge about soils in managing farms, fields, and woodlands; in developing rural areas; in engineering work; and in many other ways. Soils are classified in broad classes to facilitate study and comparison in large areas, such as countries and continents.

The system of soil classification currently used was adopted by the National Cooperative Soil Survey in 1965 (*5, 8*). Because this system is under continual study, readers interested in development of the current system should search the latest literature available.[6]

The current system of classification has six categories. Beginning with the broadest, the categories are the order, the suborder, the great group, the subgroup, the family, and the series. In this system the criteria used as a basis for classification are soil properties that are observable and measurable. The properties are chosen, however, so that soils of similar genesis are grouped. In table 9, the soils series of Autauga County are classified in the six categories of the current system. A brief description of each of the categories follows.

ORDER. Ten soil orders are recognized. The properties used to differentiate among soil orders are those that tend to give broad climatic groupings of soils. The two exceptions to this are the Entisols and Histosols, which occur in many different climates. Each order is named with a word of three or four syllables ending in *sol* (Ent-i-sol).

SUBORDER. Each order is divided into suborders, primarily on the basis of those soil characteristics that produce classes having the greatest genetic similarity. The suborders narrow the broad climatic range permitted in the orders. The soil properties used to separate suborders are mainly those that reflect either the presence or absence of waterlogging, or soil differences resulting from the climate or vegetation. The names of suborders have two syllables. The last syllable indicates the order. An example is *Aquent* (*Aqu*, meaning water or wet, and *ent*, from Entisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of uniformity in the kind and sequence of major soil horizons and features. The horizons used to make separations are those in which clay, iron, or humus have accumulated; those that have pans that interfere with growth of roots, movement of water or both; and thick, dark-colored surface horizons. The features used are the self-mulching properties of clay, soil temperature, major differences in chemical composition (mainly calcium, magnesium, sodium, and potassium), dark-red and dark-brown colors associated with basic rocks, and the like. The names of great groups have three or four syllables and are made by adding a prefix to the name of the suborder. An example is Haplaquents (*Hapl*, meaning simple horizons, *aqu* for wetness or water, and *ent*, from Entisols).

SUBGROUP. Great groups are divided into subgroups, one representing the central (typic) segment of the group, and others called intergrades that have properties of the group and also one or more properties of another great group, suborder, or order. Subgroups may also be made in those instances where soil properties intergrade outside of the range of any other great group, suborder, or order. The names of subgroups are derived by placing one or more adjectives before the name of the great group. An example is Typic Haplaquents (a typical Haplaquent).

FAMILY. Soil families are established within a subgroup, primarily on the basis of properties important to the growth of plants or on the behavior of soils when used for engineering. Among the properties considered are texture, mineral content, reaction, soil temperature, permeability, thickness of horizons, and consistence. A family name consists of a series of adjectives preceding the subgroup name. The adjectives are the class names for texture and mineral content, for example, that are used as family differentiae (see table 9). An example is the coarse-loamy, siliceous, acid, thermic family of Typic Haplaquents.

SERIES. The series has the narrowest range of characteristics of the categories in the classification system. It is explained in the section "How This Survey Was Made."

[6] See the unpublished working document "Selected Chapters from the Unedited Text of the Soil Taxonomy," available in the SCS State Office, Auburn, Alabama.

TABLE 9.—*Soil series classified according to the current system of classification*

Series	Family	Subgroup	Order
Alaga	Thermic, coated	Typic Quartzipsamments	Entisols.
Altavista [1]	Fine-loamy, mixed, thermic	Aquic Hapludults	Ultisols.
Benndale	Coarse-loamy, siliceous, thermic	Typic Paleudults	Ultisols.
Bibb	Coarse-loamy, siliceous, acid, thermic	Typic Fluvaquents	Entisols.
Blanton	Loamy, siliceous, thermic	Grossarenic Paleudults	Ultisols.
Faceville	Clayey, kaolinitic, thermic	Typic Paleudults	Ultisols.
Flomaton	Sandy-skeletal, siliceous, thermic	Psammentic Paleudults	Ultisols.
Grady	Clayey, kaolinitic, thermic	Typic Paleaquults	Ultisols.
Harleston	Coarse-loamy, siliceous, thermic	Aquic Paleudults	Ultisols.
Jones	Coarse-loamy, siliceous, thermic	Ultic Hapludalfs	Alfisols.
Lakeland	Thermic, coated	Typic Quartzipsamments	Entisols.
Lucedale	Fine-loamy, siliceous, thermic	Rhodic Paleudults	Ultisols.
Lucy	Loamy, siliceous, thermic	Arenic Paleudults	Ultisols.
McQueen	Clayey, mixed, thermic	Typic Hapludults	Ultisols.
Myatt	Fine-loamy, siliceous, thermic	Typic Ochraquults	Ultisols.
Norfolk	Fine-loamy, siliceous, thermic	Typic Paleudults	Ultisols.
Ochrepts	(2)	(2)	Inceptisols.
Osier	Siliceous, thermic	Typic Psammaquents	Entisols.
Pine Flat	Coarse-loamy, siliceous, thermic	Rhodic Paleudults	Ultisols.
Rains	Fine-loamy, siliceous, thermic	Typic Paleaquults	Ultisols.
Roanoke	Clayey, mixed, thermic	Typic Ochraquults	Ultisols.
Ruston	Fine-loamy, siliceous, thermic	Typic Paleudults	Ultisols.
Saffell	Loamy-skeletal, siliceous, thermic	Typic Hapludults	Ultisols.
Shubuta	Clayey, kaolinitic, thermic	Typic Hapludults	Ultisols.
Sumter	Fine-silty, carbonatic, thermic	Rendollic Eutrochrepts	Inceptisols.
Troup	Loamy, siliceous, thermic	Grossarenic Paleudults	Ultisols.
Vaiden	Very-fine, montmorillonitic, thermic	Aquentic Chromuderts	Vertisols.
Wickham	Fine-loamy, mixed, thermic	Typic Hapludults	Ultisols.

[1] The Altavista soils in Autauga County are taxadjuncts to the Altavista series. The gray mottles, indicating wetness, are slightly deeper than is appropriate for the classification shown.

[2] Classified only in suborder and order.

General Nature of the County

The general slope of the county is southward. Elevation ranges from 100 feet above sea level at the Alabama River to almost 1,000 feet at the top of Little Mountain near the Liberty Community. In most places the county is 125 to 700 feet above sea level. The uplands are sloping to steep hills and scattered nearly level plateaus and ridgetops.

The Alabama River, which flows westward, is the southern boundary of the county. The Jones-Bluff Lock and Hydroelectric Dam, near the southwest corner of the county, provides a navigable channel to deep water ports in the Gulf of Mexico. Big Mulberry Creek, which flows southward, is the western boundary of the county. Little Mulberry, Buck, Beaver, Ivey, Swift, Bear, and Autauga Creeks, which flow southward through the county, empty into the Alabama River. Shoal and Mortar Creeks flow southeastward across the northeastern corner of the county. Small permanent streams, earthfill ponds, or dug ponds provide sufficient water for livestock on most farms. Wells furnish most of the water for domestic uses. There are many artesian wells on the stream terraces in the southern part of the county.

Climate [7]

The climate of Autauga County is temperate, and rainfall is usually well distributed throughout the year. Except in summer, the day-to-day weather is controlled largely by the movement of pressure systems and contrasting air masses across the south. During the summer when moist tropical air prevails along with a weak permanent high pressure system, the climate borders on the subtropical. Temperature and precipitation data are shown in table 10.

Spring is the most changeable season. Temperature and rainfall are highly variable. The weather is so unpredictable that planning fieldwork is difficult. The cold, rainy, and windy days of winter persist into March, but as May approaches, the days are sunny, warm, and pleasant. Temperatures can fall to 32° F. or below as late as early in April and soar into the 90's in May. March is the wettest month of the year. Dry spells occur frequently in May, but soil moisture is usually adequate for plant growth. The dryness favors cultivation, hay harvesting, and other fieldwork. Severe thunderstorms and occasional tornadoes are more likely in spring.

Summer is long. Warm to hot weather begins in May or June and continues into September and often well into October. Breaks in the hot weather are few in July and August. Thundershowers, which provide most of the summer rain, occur on about 1 day in 3. The amount of rainfall varies locally. July is the most dependable month for rain, which is critical as crops begin to mature. Temperatures of 90° or higher are likely on most days in summer and on an average of 85 days a year. Temperatures of 100° or higher, which usually

[7] By climatologist for Alabama, National Weather Service, Montgomery, Ala.

TABLE 10.—*Temperature and precipitation*

[All data from Prattville and Billingsley]

Month	Temperature				Precipitation				
	Average daily maximum	Average daily minimum	Two years in 10 will have at least 4 days with—		Average total	One year in 10 will have—		Average number of days with precipitation of—	
			Maximum temperature equal to or higher than—	Minimum temperature equal to or lower than—		Less than—	More than—	0.10 inch or more	0.50 inch or more
	°F	°F	°F	°F	*Inches*	*Inches*	*Inches*		
January	59	37	73	20	4.6	2.3	7.9	7	3
February	63	39	77	23	5.3	2.3	8.2	7	4
March	69	44	82	29	6.2	3.3	9.7	8	4
April	79	52	88	39	5.4	2.0	10.1	6	4
May	86	60	93	48	3.7	.7	6.4	6	3
June	91	67	98	59	4.4	1.7	7.4	6	3
July	92	70	98	66	5.2	2.4	10.0	8	3
August	92	69	98	62	4.0	1.2	6.9	6	2
September	87	65	96	55	3.7	1.0	7.2	6	3
October	79	53	79	36	2.3	.3	6.1	6	2
November	65	42	73	28	3.7	1.1	6.3	5	2
December	60	37	73	24	5.3	2.4	7.9	6	3
Year	77	53	[1] 100	[2] 15	53.8	45.3	64.1	77	36

[1] Average annual highest temperature.

[2] Average annual lowest temperature.

TABLE 11.—*Probability of last low temperatures in spring and first in fall*

[Based on data from Prattville]

Probability	Dates for given probability and temperature					
	20°F or less	24°F or less	28°F or less	32°F or less	36°F or less	40°F or less
Spring:						
1 year in 10 later than	February 2	February 27	March 19	April 4	April 15	April 19
1 year in 4 later than	January 30	February 18	March 11	March 26	April 10	April 17
1 year in 3 later than	January 22	February 16	March 5	March 21	April 7	April 15
2 years in 3 later than	January 14	February 2	February 19	March 12	March 27	April 8
3 years in 4 later than	January 12	January 26	February 11	March 10	March 26	April 6
9 years in 10 later than	January 8	January 16	January 29	March 6	March 18	March 27
Fall:						
1 year in 10 earlier than	December 8	November 29	November 8	October 28	October 20	October 14
1 year in 4 earlier than	December 13	December 3	November 13	November 3	October 28	October 15
1 year in 3 earlier than	December 14	December 6	November 15	November 8	October 29	October 19
2 years in 3 earlier than	December 20	December 18	November 26	November 16	November 8	October 28
3 years in 4 earlier than	December 22	December 19	November 30	November 23	November 10	October 31
9 years in 10 earlier than	December 23	December 22	December 16	November 29	November 13	November 9

occur during extended periods of dry weather, are likely during most summers.

Fall is a season of transition. The hot, humid weather of early September gradually gives way to the mild, sunny, and usually dry days of October. Rainfall is light and infrequent, humidity is low, and temperature extremes are rare. Extended periods without rain are frequent and result occasionally in mild droughts. The dry weather favors the harvest of crops, but at times hinders the germination and growth of small grain. Pre-winter cold spells begin late in October and become more frequent in November. The average date of the first temperature of 32° or lower is mid-November. Table 11 gives the probable dates of the first low temperatures in fall and the last low temperatures in spring.

In winter there are frequent shifts and interaction between warm and moist air from the Gulf of Mexico and cold and dry air from the North. As a result winter is characterized by considerable cloudiness and pre-

cipitation, mainly rain. Snow is infrequent. Cloudy skies for several consecutive days occur frequently, and rain can be expected on 1 day in 3. Temperatures drop to 32° or lower on about 40 days each year, 20 of which are in December and January. Temperatures below 15° seldom occur and then only for a day or two.

Prevailing winds vary locally, but are usually northwesterly in winter, southerly in spring and summer, and northeasterly in the fall. The average humidity for the year is nearly 70 percent and is highly variable during the day. For the year nearly 60 percent of the possible sunshine can be expected.

During the growing season rainfall is the most important weather element in determining crop yield. The amount and timeliness of rain is adequate in most years, but wet and dry spells of varying intensity do occur. A mild drought, which can affect crop yield slightly but does not cause a total failure, is likely during at least 1 month on the average of 2 years in 3. Severe droughts resulting in total crop failure are not likely more than 1 year out of 15.

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Glossary

Acidity, soil. See Reaction, soil.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates such as crumbs, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alkali soil. Generally, a highly alkaline soil. Specifically, an alkali soil has so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that the growth of most crop plants is low from this cause.

Alluvium. Soil material, such as sand, silt, or clay, that has been deposited on land by streams.

Available water capacity (also termed available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil.

Calcareous soil. A soil containing enough calcium carbonate (often with magnesium carbonate) to effervesce (fizz) visibly when treated with cold, dilute hydrochloric acid.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay film. A thin coating of clay on the surface of a soil aggregate. Synonyms: clay coat, clay skin.

Colluvium. Soil material, rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Concretions. Grains, pellets, or nodules of various sizes, shapes, and colors consisting of concentrations of compounds, or of soil grains cemented together. The composition of some concretions is unlike that of the surrounding soil. Calcium carbonate and iron oxide are examples of material commonly found in concretions.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—

Loose.—Noncoherent when dry or moist; does not hold together in a mass.

Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.

Sticky.—When wet, adheres to other material, and tends to stretch somewhat and pull apart, rather than to pull free from other material.

Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft.—When dry, breaks into powder or individual grains under very slight pressure.

Cemented.—Hard and brittle; little affected by moistening.

Drainage class (natural). Refers to the conditions of frequency and duration of periods of saturation or partial saturation that existed during the development of the soil, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deeping of channels or the blocking of drainage outlets. Seven different classes of natural soil drainage are recognized.

Excessively drained soils are commonly very porous and rapidly permeable and have a low water-holding capacity.

Somewhat excessively drained soils are also very permeable and are free from mottling throughout their profile.

Well-drained soils are nearly free from mottling and are commonly of intermediate texture.

Moderately well drained soils commonly have a slowly permeable layer in or immediately beneath the solum. They have uniform color in the A and upper B horizons and mottling in the lower B and the C horizons.

Somewhat poorly drained soils are wet for significant periods but not all the time, and some soils commonly have mottling at a depth below 6 to 16 inches.

Poorly drained soils are wet for long periods and are light gray and generally mottled from the surface downward, although mottling may be absent or nearly so in some soils.

Very poorly drained soils are wet nearly all the time. They have a dark-gray or black surface layer and are gray or light gray, with or without mottling, in the deeper parts of the profile.

Erosion. The wearing away of the land surface by wind (sandblast), running water, and other geological agents.

Fertility, soil. The quality of a soil that enables it to provide compounds, in adequate amounts and in proper balance, for the growth of specified plants, when other growth factors such as light, moisture, temperature, and the physical condition of the soil are favorable.

Fragipan. A loamy, brittle, subsurface horizon that is very low in organic-matter content and clay but is rich in silt or very fine sand. The layer is seemingly cemented. When dry, it is hard or very hard and has a high bulk density in comparison with the horizon or horizons above it. When moist, the fragipan tends to rupture suddenly if pressure is applied, rather than to deform slowly. The layer is generally mottled, is slowly or very slowly permeable to water, and has few or many bleached fracture planes that form polygons. Fragipans are a few inches to several feet thick; they generally occur below the B horizon, 15 to 40 inches below the surface.

Gleyed soil. A soil in which waterlogging and lack of oxygen have caused the material in one or more horizons to be neutral gray in color. The term "gleyed" is applied to soil horizons with yellow and gray mottling caused by intermittent waterlogging.

Horizon, soil. A layer of soil, approximately parallel to the surface, that has distinct characteristics produced by soil-forming processes. These are the major horizons:

O horizon.—The layer of organic matter on the surface of a mineral soil. This layer consists of decaying plant residues.

A horizon.—The mineral horizon at the surface or just below an O horizon. This horizon is the one in which living organisms are most active and therefore is marked by the accumulation of humus. The horizon may have lost one or more of soluble salts, clay, and sesquioxides (iron and aluminum oxides).

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of change from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics caused (1) by accumulation of clay, sesquioxides, humus, or some combination of these; (2) by prismatic or blocky structure; (3) by redder or stronger colors than the A horizon; or (4) by some combination of these. Combined A and B horizons are usually called the solum, or true soil. If a soil lacks a B horizon, the A horizon alone is the solum.

C horizon.—The weathered rock material immediately beneath the solum. In most soils this material is presumed to be like that from which the overlying horizons were formed. If the material is known to be different from that in the solum, a Roman numeral precedes the letter C.

R layer.—Consolidated rock beneath the soil. The rock usually underlies a C horizon but may be immediately beneath an A or B horizon.

Leached soil. A soil from which most of the soluble material has been removed from the entire profile or has been removed from one part of the profile and has accumulated in another part.

Mottling, soil. Irregularly marked with spots of different colors that vary in number and size. Mottling in soils usually indicates poor aeration and lack of drainage. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent.* The size measurements are these: *fine,* less than 5 millimeters (about 0.2 inch) in diameter along the greatest dimension; *medium,* ranging from 5 millimeters to 15 millimeters (about 0.2 to 0.6 inch) in diameter along the greatest dimension; and *coarse,* more than 15 millimeters (about 0.6 inch) in diameter along the greatest dimension.

Parent material. Disintegrated and partly weathered rock from which soil has formed.

Permeability. The quality that enables the soil to transmit water or air. Terms used to describe permeability are as follows: *very slow, slow, moderately slow, moderate, moderately rapid, rapid,* and *very rapid.*

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents that commonly shows as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to hardpan or to irregular aggregates upon repeated wetting and drying. It is a form of laterite.

Plowpan, traffic pan. A compacted layer formed in the soil immediately below the plowed layer.

Reaction, soil. The degree of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is precisely neutral in reaction because it is neither acid nor alkaline. An acid, or "sour," soil is one that gives an acid reaction; an alkaline soil is one that is alkaline in reaction. In words, the degrees of acidity or alkalinity are expressed thus:

	pH		*pH*
Extremely acid	Below 4.5	Neutral	6.6 to 7.3
Very strongly acid	4.5 to 5.0	Mildly alkaline	7.4 to 7.8
Strongly acid	5.1 to 5.5	Moderately alkaline	7.9 to 8.4
Medium acid	5.6 to 6.0	Strongly alkaline	8.5 to 9.0
Slightly acid	6.1 to 6.5	Very strongly alkaline	9.1 and higher

Sand. Individual rock or mineral fragments in a soil that range in diameter from 0.05 to 2.0 millimeters. Most sand grains consist of quartz, but they may be of any mineral composition. The textural class name of any soil that contains 85 percent or more sand and not more than 10 percent clay.

Silt. Individual mineral particles in a soil that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). Soil of the silt textural class is 80 percent or more silt and less than 12 percent clay.

Soil. A natural, three-dimensional body on the earth's surface that supports plants and that has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Structure, soil. The arrangement of primary soil particles into compound particles or clusters that are separated from adjoining aggregates and have properties unlike those of an equal mass of unaggregated primary soil particles. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular. Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering together without any regular cleavage, as in many claypans and hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Substratum. Technically, the part of the soil below the solum.

Terrace (geological). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea. Stream terraces are frequently called second bottoms, as contrasted to flood plains, and are seldom subject to overflow. Marine terraces were deposited by the sea and are generally wide.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay.* The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Tilth, soil. The condition of the soil in relation to the growth of plants, especially soil structure. Good tilth refers to the friable state and is associated with high noncapillary porosity and stable, granular structure. A soil in poor tilth is nonfriable, hard, nonaggregated, and difficult to till.

Water table. The highest part of the soil or underlying rock material that is wholly saturated with water. In some places an upper, or perched, water table may be separated from a lower one by a dry zone.

GUIDE TO MAPPING UNITS

For a full description of a mapping unit, read both the description of the mapping unit and that of the soil series to which the mapping unit belongs. Other information is given in tables as follows:

Acreage and extent, table 1, page 7.
Predicted yields, table 2, page 34.

Engineering uses of the soils, tables 5, 6, and 7, pages 42 through 53.

Map symbol	Mapping unit	Described on page	Capability unit	Woodland group
			Symbol	Symbol
AaB	Alaga loamy sand, 0 to 5 percent slopes	7	IIIs-14	3s3
AtA	Altavista loam, 0 to 2 percent slopes	8	IIw-36	2w8
AtB	Altavista loam, 2 to 5 percent slopes	8	IIe-36	2w8
Be	Benndale loamy fine sand	9	IIs-13	2o1
Bs	Bibb soils	9	Vw-13	2w9
Bt	Blanton loamy sand	10	IIIs-14	4s3
FaB	Faceville sandy clay loam, 2 to 5 percent slopes	11	IIe-11	3o1
FSE	Flomaton-Shubuta association, hilly	12	-------	------
	Flomaton soil	--	VIIs-14	4f2
	Shubuta soil	--	VIe-15	3o1
Gr	Grady complex	12	IVw-11	2w9
Ha	Harleston loamy fine sand	13	IIw-13	2w8
JcE	Jones-Lucedale-Shubuta complex, 10 to 25 percent slopes	14	VIe-15	2o1
JSE	Jones-Shubuta association, hilly	14	-------	------
	Jones soil	--	VIe-13	2o1
	Shubuta soil	--	VIe-15	3o1
LaB	Lakeland loamy sand, 0 to 5 percent slopes	15	IVs-14	4s3
Lb	Lakeland soils, frequently flooded	15	Vw-14	4s3
LdA	Lucedale fine sandy loam, 0 to 2 percent slopes	16	I-12	2o1
LdB	Lucedale fine sandy loam, 2 to 5 percent slopes	16	IIe-12	2o1
LdC2	Lucedale fine sandy loam, 4 to 10 percent slopes, eroded	17	IVe-12	2o1
LhB	Lucy loamy sand, 0 to 5 percent slopes	17	IIs-14	3s2
Mc	McQueen silt loam	18	I-35	3o7
MY	Myatt-Bibb association	19	-------	2w9
	Myatt soil	--	IVw-16	------
	Bibb soil	--	Vw-13	------
NfA	Norfolk loamy fine sand, 0 to 2 percent slopes	19	I-12	2o1
NkB	Norfolk fine sandy loam, 2 to 5 percent slopes	20	IIe-12	2o1
NkC	Norfolk fine sandy loam, 5 to 8 percent slopes	20	IIIe-12	2o1
OcB	Ochrepts, loamy, 0 to 5 percent slopes	20	IIw-31	1o7
OcD	Ochrepts, loamy, 5 to 25 percent slopes	20	VIIe-31	1o7
Ok	Osier-Bibb complex	21	Vw-13	2w9
PfB	Pine Flat sandy loam, 0 to 5 percent slopes	22	IIs-13	2o1
Ra	Rains fine sandy loam	23	IVw-12	2w3
Ro	Roanoke complex	24	IIIw-31	2w8
RuA	Ruston fine sandy loam, 0 to 2 percent slopes	24	I-12	2o1
RuB	Ruston fine sandy loam, 2 to 5 percent slopes	24	IIe-12	2o1
RuC2	Ruston fine sandy loam, 4 to 10 percent slopes, eroded	25	IVe-12	2o1
SaC	Saffell gravelly fine sandy loam, 2 to 8 percent slopes	25	IIIe-12	4f2
SsE	Shubuta-Saffell complex, 10 to 30 percent slopes	26	VIe-15	3o1
STE	Shubuta-Troup association, hilly	26	-------	------
	Shubuta soil	--	VIe-15	3o1
	Troup soil	--	VIs-14	3s2
SVE	Sumter-Faceville-Vaiden association, hilly	27	-------	------
	Sumter soil	--	VIe-28	4c2c
	Faceville soil	--	VIe-15	3o1
	Vaiden soil	--	VIe-28	3c8
TaB	Troup loamy sand, 2 to 8 percent slopes	28	IIIs-14	3s2
TRE	Troup association, hilly	28	VIs-14	3s2
Va	Vaiden silty clay	29	IIIw-28	3c8
WaB	Wickham loamy sand, 0 to 5 percent slopes	30	IIe-36	2o7
WkA	Wickham fine sandy loam, 0 to 2 percent slopes	30	I-36	2o7
WkB	Wickham fine sandy loam, 2 to 5 percent slopes	30	IIe-36	2o7
WsD	Wickham soils, 5 to 17 percent slopes	30	VIe-36	2o7

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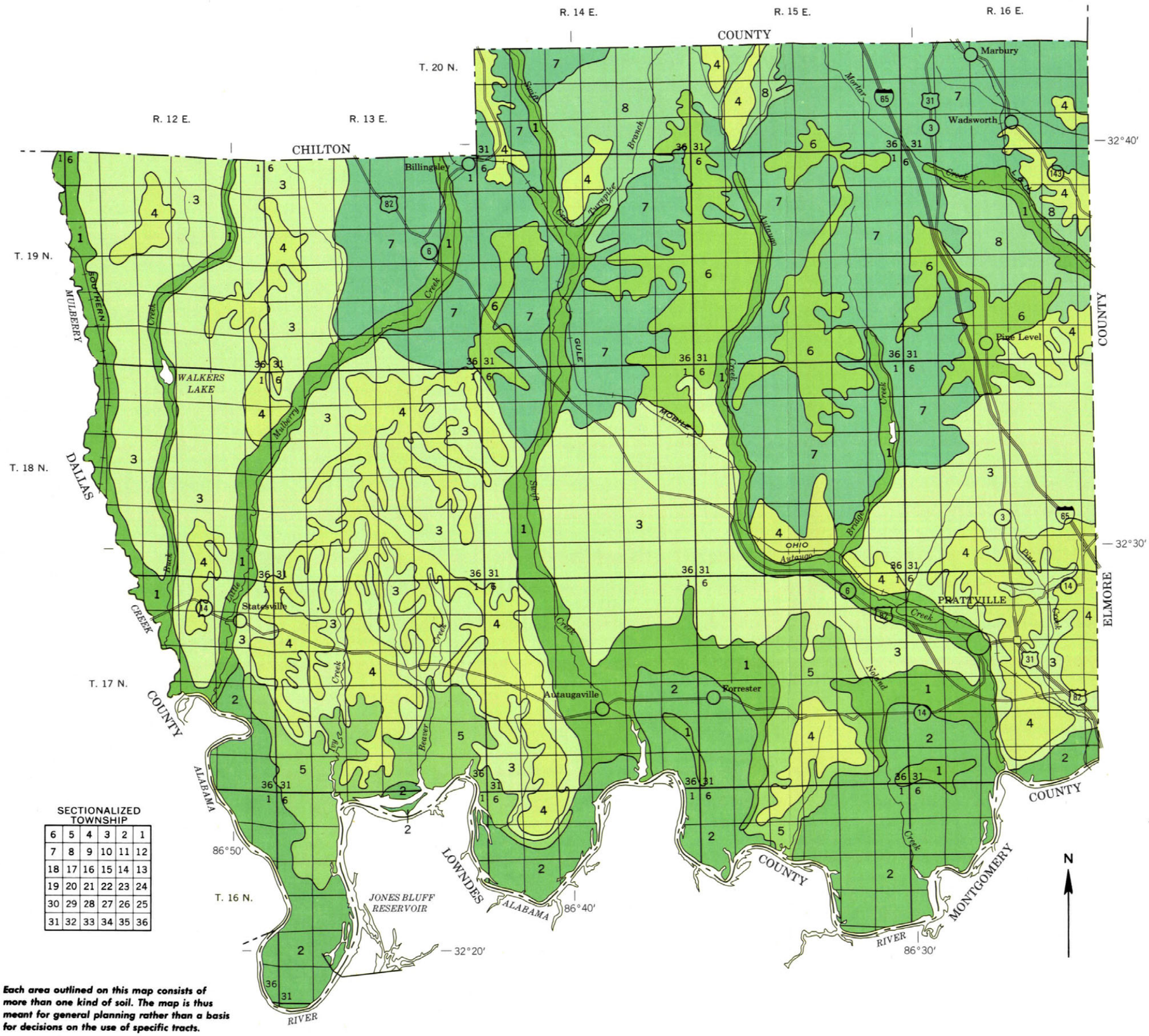


SOIL ASSOCIATIONS *

1 Myatt-Bibb-Benndale association: Poorly drained and well drained, moderately coarse textured, nearly level soils on bottoms and stream terraces, many of which are frequently flooded

2 Wickham-McQueen-Roanoke association: Well drained and poorly drained, moderately coarse textured to moderately fine textured, nearly level to gently sloping soils on stream terraces that are occasionally flooded

3 Jones-Shubuta-Bibb association: Well drained, moderately coarse textured, hilly soils on uplands and poorly drained, moderately coarse textured, nearly level soils on narrow stream flood plains

4 Lucedale-Ruston-Shubuta association: Well drained, moderately coarse textured, nearly level to gently sloping soils on uplands

5 Sumter-Faceville-Vaiden association: Well drained and somewhat poorly drained, fine textured and moderately fine textured, hilly soils on uplands

6 Troup-Blanton-Alaga association: Well drained and somewhat excessively drained, coarse textured, nearly level to sloping soils on uplands

7 Troup-Shubuta-Bibb association: Well drained, coarse textured and moderately coarse textured, hilly to steep soils on uplands and poorly drained, moderately coarse textured, nearly level soils on narrow flood plains

8 Flomaton-Shubuta association: Excessively drained and well drained, coarse textured and moderately coarse textured, hilly soils on uplands

* Texture refers to the surface layer of the major soils in each soil association

Compiled 1975

SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

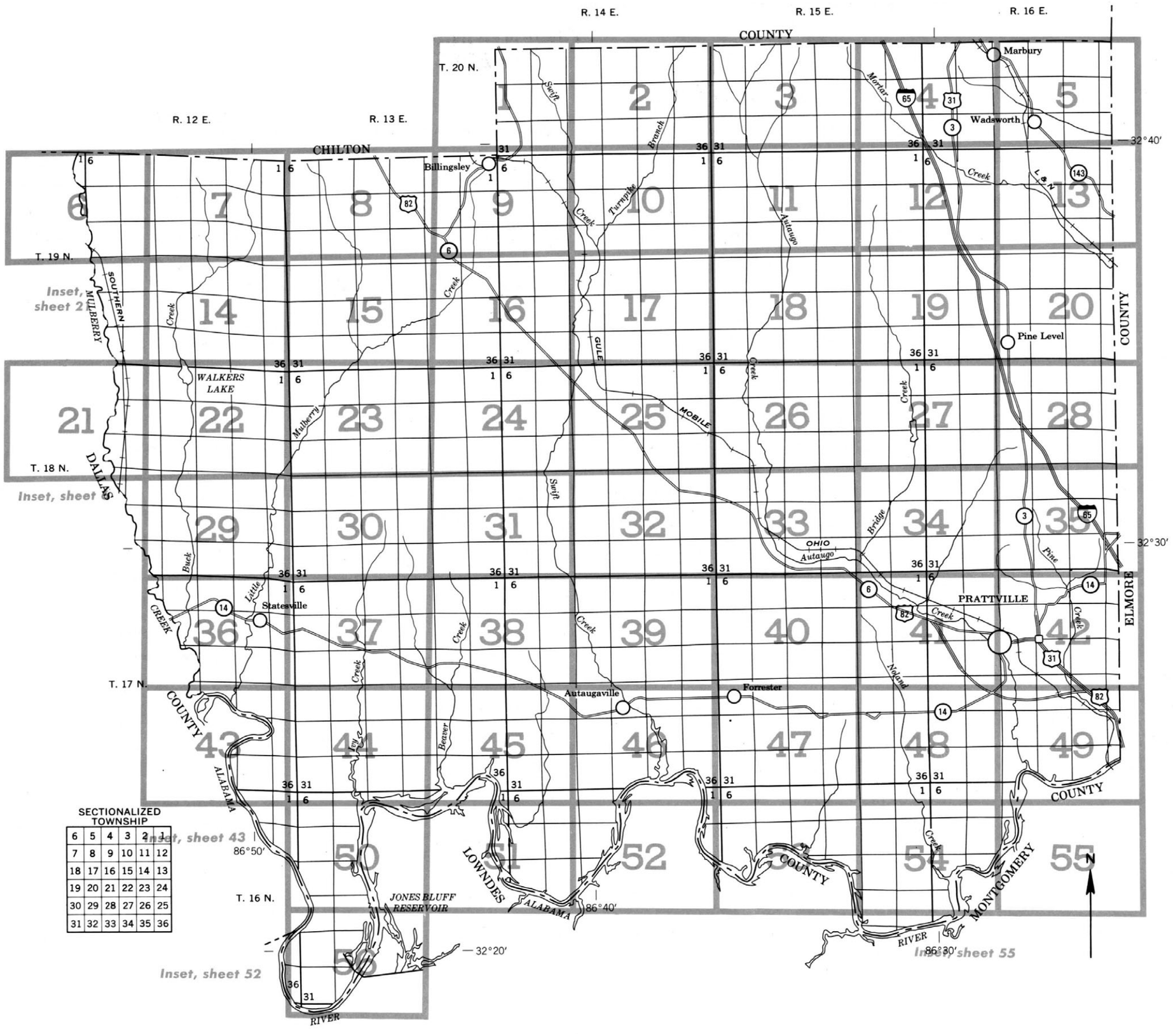
ALABAMA AGRICULTURAL EXPERIMENT STATION AND

ALABAMA DEPARTMENT OF AGRICULTURE AND INDUSTRIES

GENERAL SOIL MAP

AUTAUGA COUNTY, ALABAMA

1 0 1 2 3 4 Miles



SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Original text from map sheets:
"This map is compiled on 1975 aerial photography by the U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Coordinate grid ticks and land division corners, if shown, are approximately positioned."

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

INDEX TO MAP SHEETS
AUTAUGA COUNTY, ALABAMA

1 0 1 2 3 4 Miles

SOIL LEGEND

The first letter, always a capital, is the initial letter of the soil name. The second letter is a capital if the mapping unit is broadly defined 1/; otherwise, it is a small letter. The third letter, always a capital, shows the slope. Symbols without slope letters are those of nearly level soils. A final number, 2, in the symbol shows the soil has been eroded.

SYMBOL	NAME
AaB	Alaga loamy sand, 0 to 5 percent slopes
AtA	Altavista loam, 0 to 2 percent slopes
AtB	Altavista loam, 2 to 5 percent slopes
Be	Benndale loamy fine sand
Bs	Bibb soils
Bt	Blanton loamy sand
FaB	Faceville sandy clay loam, 2 to 5 percent slopes
FSE	Flomaton-Shubuta association, hilly
Gr	Grady complex
Ha	Harleston loamy fine sand
JcE	Jones-Lucedale-Shubuta complex, 10 to 25 percent slopes
JSE	Jones-Shubuta association, hilly
LaB	Lakeland loamy sand, 0 to 5 percent slopes
Lb	Lakeland soils, frequently flooded
LdA	Lucedale fine sandy loam, 0 to 2 percent slopes
LdB	Lucedale fine sandy loam, 2 to 5 percent slopes
LdC2	Lucedale fine sandy loam, 4 to 10 percent slopes, eroded
LhB	Lucy loamy sand, 0 to 5 percent slopes
Mc	McQueen silt loam
MY	Myatt-Bibb association
NfA	Norfolk loamy fine sand, 0 to 2 percent slopes
NkB	Norfolk fine sandy loam, 2 to 5 percent slopes
NkC	Norfolk fine sandy loam, 5 to 8 percent slopes
OcB	Ochrepts, loamy, 0 to 5 percent slopes
OcD	Ochrepts, loamy, 5 to 25 percent slopes
Ok	Osier-Bibb complex
PfB	Pine Flat sandy loam, 0 to 5 percent slopes
Ra	Rains fine sandy loam
Ro	Roanoke complex
RuA	Ruston fine sandy loam, 0 to 2 percent slopes
RuB	Ruston fine sandy loam, 2 to 5 percent slopes
RuC2	Ruston fine sandy loam, 4 to 10 percent slopes, eroded
SaC	Saffell gravelly fine sandy loam, 2 to 8 percent slopes
SsE	Shubuta-Saffell complex, 10 to 30 percent slopes
STE	Shubuta-Troup association, hilly
SVE	Sumter-Faceville-Vaiden association, hilly
Tab	Troup loamy sand, 2 to 8 percent slopes
TRE	Troup association, hilly
Va	Vaiden silty clay
WaB	Wickham loamy sand, 0 to 5 percent slopes
WkA	Wickham fine sandy loam, 0 to 2 percent slopes
WkB	Wickham fine sandy loam, 2 to 5 percent slopes
WsD	Wickham soils, 5 to 17 percent slopes

1/ The composition of these units is more variable than that of others in the survey area but has been controlled well enough to be interpreted for the expected use of the soils.

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park, and large airport)
- Land grant
- Limit of soil survey (label)
- Field sheet matchline & neatline

AD HOC BOUNDARY (label)

- Small airport, airfield, park, oilfield, cemetery, or flood pool (Davis Airstrip; FLOOD POOL LINE)

STATE COORDINATE TICK

LAND DIVISION CORNERS (sections and land grants)

ROADS

- Divided (median shown if scale permits)
- Other roads
- Trail

ROAD EMBLEMS & DESIGNATIONS

- Interstate (78)
- Federal (410)
- State (52)
- County, farm or ranch (378)

RAILROAD

POWER TRANSMISSION LINE (normally not shown)

PIPE LINE (normally not shown)

FENCE (normally not shown)

LEVEES

- Without road
- With road
- With railroad

DAMS

- Large (to scale)
- Medium or small (water; w)

PITS

- Gravel pit (G.P.)
- Mine or quarry

MISCELLANEOUS CULTURAL FEATURES

- Farmstead, house (omit in urban areas)
- Church
- School
- Indian mound (label) (Indian Mound)
- Located object (label) (Tower)
- Tank (label) (GAS)
- Wells, oil or gas
- Windmill
- Kitchen midden

WATER FEATURES

DRAINAGE

- Perennial, double line
- Perennial, single line
- Intermittent
- Drainage end
- Canals or ditches
  - Double-line (label) (CANAL)
  - Drainage and/or irrigation

LAKES, PONDS AND RESERVOIRS

- Perennial (water; w)
- Intermittent (int; i)

MISCELLANEOUS WATER FEATURES

- Marsh or swamp
- Spring
- Well, artesian
- Well, irrigation
- Wet spot

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS (CeA; FoB2)

ESCARPMENTS

- Bedrock (points down slope)
- Other than bedrock (points down slope)

SHORT STEEP SLOPE

GULLY

DEPRESSION OR SINK

SOIL SAMPLE SITE (normally not shown)

MISCELLANEOUS

- Blowout
- Clay spot
- Gravelly spot
- Gumbo, slick or scabby spot (sodic)
- Dumps and other similar non soil areas
- Prominent hill or peak
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip (tips point upslope)
- Stony spot, very stony spot
- Borrow pit (B.P.)

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 1

735 000 FEET

985 000 FEET

R. 14 E.

CHILTON COUNTY

T. 20 N.

CHILTON COUNTY

NkB
RuB
SaC
STE
MY
PfB
RuA
RuC2
TaB
LdC2
NkC
Bs
FSE

19
20
21
28
29
30
31
32
33

Swift Creek

Indian Creek

975 000 FEET

750 000 FEET

(Joins sheet 9)

(Joins sheet 2)

N

1 Mile
5000 Feet

Scale 1:20000

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 2

2

N

775 000 FEET

985 000 FEET

CHILTON COUNTY

R. 14 E. | R. 15 E.

T. 20 N.

(Joins sheet 1)

(Joins sheet 3)

(Joins sheet 10)

755 000 FEET

775 000 FEET

Scale · 1 : 20000

1 Mile 5000 Feet

0 0

1/4 1000

1/2 2000

3/4 3000

4000

1 5000

Indian Creek

Pleasant Hill Ch.

Indian Grave Ch.

Wheatley Branch

Branch

Turnpike

21 22 23 24 19 28 27 26 25 30 33 34 35 36 31

TaB SaC RuB Bs FSE RuC2 NkC Ok STE MY Bt LhB NfA TRE

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 3

775 000 FEET

985 000 FEET

CHILTON COUNTY

R. 15 E.

T. 20 N.

(Joins sheet 2)

(Joins sheet 4)

(Joins sheet 11)

795 000 FEET

975 000 FEET

3

N

1 Mile

5000 Feet

Scale 1:20000

RuB RuC2 PfB NkB NkC TaB Bs FSE Ok SaC STE Bt LhB TRE MY NfA

Autauga Creek

Little Creek

Mortar Creek

McKensey Creek

Zions Rest Ch.

Penfecost Sch.

19 20 21 22 23 26 27 28 29 30 31 32 33 34 35

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 4

4

N

1 Mile

5000 Feet

Scale 1:20000

815 000 FEET

985 000 FEET

975 000 FEET

800 000 FEET

R. 15 E. | R. 16 E.

CHILTON COUNTY

T. 20 N.

(Joins sheet 3)

(Joins sheet 5)

(Joins sheet 12)

Louisville and Nashville

Marbury

Antioch Ch.

Mortar Creek

Shoal Creek

G. P

23 24 19 20 21

26 25 30 29 28

35 36 31 32 33

NkB NkC TaB RuA RuB SaC RuC2 STE Ok Bs W

65 31 143

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 5

820 000 FEET

985 000 FEET

R. 16 E.

CHILTON COUNTY

ELMORE COUNTY

T. 20 N.

T. 19 N.

(Joins sheet 4)

(Joins sheet 13)

835 000 FEET

975 000 FEET

Marbury

Wadsworth

LOUISVILLE

NASHVILLE

Wolf Creek

Shoal Creek

Creek

143

21 22 23 24 25 26 27 28 33 34 35 36 1 2 3 4

STE SaC RuB RuC2 NkC NkB NfA RuA Bs Ha Ok MY Be NkB

5

N

1 Mile

5000 Feet

Scale 1:20000

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 6

6

N

1 Mile 5000 Feet

Scale 1:20000

(Joins sheet 21) R. 12 E. 690 000 FEET

R. 11 E. R. 12 E. CHILTON COUNTY 690 000 FEET 970 000 FEET

920 000 FEET

T. 18 N.

T. 19 N.

(Joins sheet 29)

(Joins sheet 7)

910 000 FEET

955 000 FEET

685 000 FEET

680 000 FEET

(Joins inset, sheet 21)

SOUTHERN

DALLAS COUNTY

Mulberry Creek

water

SAND AND GRAVEL PIT

SAND AND GRAVEL PIT

WkA WkB Ha Bt Be Lb Mc JSE WaB OcD LdB LdC2

1 5 6 7 8 12 17 18 19 20 29 30 32

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 7

690 000 FEET

970 000 FEET

CHILTON COUNTY

R. 12 E. | R. 13 E.

T. 19 N.

(Joins sheet 6)

(Joins sheet 8)

(Joins sheet 14)

710 000 FEET

955 000 FEET

Lake Pearl

Buck Creek

Long Branch

Little Zion Ch

Bethel Grove

JSE

Bs

MY

LdA

LdB

LdC2

1 Mile

5000 Feet

Scale 1:20000

7

N

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 8

8

N

730 000 FEET

970 000 FEET

CHILTON COUNTY

R. 13 E.

T. 19 N.

82

JSE TaB PfB TRE Ok LdB LdA RuC2 LdC2 RuB Bs water

Coon Creek

(Joins sheet 7)

(Joins sheet 9)

(Joins sheet 15)

955 000 FEET

715 000 FEET

1 Mile 5000 Feet

Scale 1:20000

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 9

735 000 FEET

R. 14 E.

(Joins sheet 1)

970 000 FEET

T. 19 N.

CHILTON COUNTY

R. 13 E.

20 N.

Billingsley

B. P.

water

Little Mulberry Creek

Stiff Creek

ILLINOIS CENTRAL GULF

TRE

MY

STE

TaB

RuC2

NkC

NkB

LdC2

PfB

Bs

LhB

Bt

Big Springs Ch.

1

2

4

5

6

7

8

9

11

12

13

14

16

17

18

31

32

33

82

(Joins sheet 8)

(Joins sheet 10)

(Joins sheet 16)

750 000 FEET

955 000 FEET

9

N

1 Mile

5000 Feet

Scale 1:20000

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 10

10

N

R. 14 E. | R. 15 E.

T. 19 N. | T. 20 N.

775 000 FEET

970 000 FEET

955 000 FEET

755 000 FEET

(Joins sheet 2)

(Joins sheet 9)

(Joins sheet 11)

(Joins sheet 17)

1 Mile

5000 Feet

Scale · 1:20000

0 0 ¼ 1000 ½ 2000 ¾ 3000 1 4000 5000

Wheatley Branch

Creek

Skull Branch

Turnpike

ILLINOIS CENTRAL GULF

Haynes

water

RuC2 RuA RuB TaB PfB FaB NkB LdA LdB SaC FSE MY Ok Bs STE TRE LhB Bt Ha AaB

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 11

775 000 FEET

R. 15 E.

(Joins sheet 3)

T. 19 N.
T. 20 N.
970 000 FEET

(Joins sheet 10)

(Joins sheet 12)

(Joins sheet 18)

795 000 FEET

955 000 FEET

11

N

1 Mile

5000 Feet

Scale 1:20000

White City

Oak Grove

McKensell Creek

Autauga Creek

Fox Creek

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 12

12

N

R. 15 E. | R. 16 E.

T. 19 N. | T. 20 N.

815 000 FEET

970 000 FEET

955 000 FEET

800 000 FEET

(Joins sheet 4)

(Joins sheet 11)

(Joins sheet 13)

(Joins sheet 19)

1 Mile

5000 Feet

Scale 1:20000

0 0 ¼ ½ ¾ 1

1000 2000 3000 4000 5000

New Prospect Ch.

Myrick Ch.

Sunny Hill Ch.

Mortar Creek

South Mortar Creek

Bridge Creek

STE RuC2 TaB RuA LhB RuB PfB Bt MY SaC Ha Ok TRE LdC2 LdB LdA FSE

31 3 65

35 36 1 2 6 5 4 32 33 11 12 7 8 9 14 13 18 17 16 23 24 19 20 21

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 13

13

N

820 000 FEET

R. 16 E.

(Joins sheet 5)

T. 19 N.

T. 20 N.

970 000 FEET

(Joins sheet 12)

(Joins sheet 20)

835 000 FEET

955 000 FEET

Pine Flat

Louisville & Nashville

Mortar Creek

South Mortar Creek

AND NASHVILLE

ELMORE COUNTY

1 Mile

5000 Feet

Scale 1:20000

1 0 0 1/4 1/2 3/4 1

1000 2000 3000 4000 5000

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 14

14

N

1 Mile

5000 Feet

Scale 1:20000

R. 12 E. | R. 13 E.

710 000 FEET

950 000 FEET

940 000 FEET

690 000 FEET

T. 19 N.

(Joins sheet 7)

(Joins inset, sheet 21)

(Joins sheet 15)

(Joins sheet 22)

17 16 15 14 13 18

20 21 22 23 24 19

29 28 27 26 25 30

32 33 34 35 36 31

LdA LdC2 LdB RuC2 Bs JSE MY Ok

Long Branch

Creek

Buck

Branch

Sand

Bethel Ch.

Walkers Lake

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 15

715 000 FEET

R. 13 E.

(Joins sheet 8)

15

N

1 Mile

5000 Feet

Scale 1:20000

950 000 FEET

T. 19 N.

(Joins sheet 16)

(Joins sheet 14)

940 000 FEET

(Joins sheet 23)

730 000 FEET

18 17 16 15 14

19 20 21 22 23

30 29 28 27 26

31 32 33 34 35

Coon Creek

Mallory Branch

Unity Ch.

Mulberry Creek

Little Mulberry Creek

JSE PfB LdB LdC2 RuC2 RuB TaB TRE Bs LhB RuA MY LdA Be Ro Lb

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 16

16

N

R. 13 E. | R. 14 E.

750 000 FEET

950 000 FEET

940 000 FEET

735 000 FEET

T. 19 N.

(Joins sheet 9)

(Joins sheet 15)

(Joins sheet 17)

(Joins sheet 24)

1 Mile

5000 Feet

Scale · 1 : 20000

0 0

¼ 1000

½ 2000

¾ 3000

1 4000

5000

14 13 18 17 16

23 24 19 20 21

26 25 30 29 28

35 36 31 32 33

TRE STE TaB Bt Bs MY Be

Creek

Mulberry

Little

Swift Creek

82

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 17

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 18

18

N

R. 15 E.

795 000 FEET

950 000 FEET

940 000 FEET

775 000 FEET

(Joins sheet 11)

(Joins sheet 17)

(Joins sheet 19)

(Joins sheet 26)

T. 19 N.

T. 18 N.

Scale · 1 : 20000

1 Mile 5000 Feet

Brown Town Ch.

Kingston Ch.

Old Kingston Ch.

Autauga Creek

Bt AaB TaB SaC LaB TRE STE MY Ok Ha

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 19

800 000 FEET

R. 15 E. | R. 16 E.

(Joins sheet 12)

19

N

950 000 FEET

(Joins sheet 20)

940 000 FEET

(Joins sheet 18)

T. 18 N. | T. 19 N.

(Joins sheet 27)

815 000 FEET

1 Mile

5000 Feet

Scale · 1 : 20000

0 1000 2000 3000 4000 5000

¼ ½ ¾ 1

South Mortar Creek

Liberty Ch.

Boone Chapel

Bridge Creek

water

14 13 18 17 16

23 24 19 20 21

26 25 30 29 28

35 36 31 32 33

2 1 6 5 4

STE TRE Ok Bt TaB LdC2 LdA LdB PfB FSE NkB LhB RuB RuC2 AaB MY Bs

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 20

20

N

1 Mile

5000 Feet

Scale 1:20000

(Joins sheet 13)

R. 16 E.

835 000 FEET

950 000 FEET

940 000 FEET

820 000 FEET

(Joins sheet 19)

(Joins sheet 28)

T. 18 N.

T. 19 N.

ELMORE COUNTY

South Mortar Creek

Mortar Creek

Pine Level Ok Branch

Stoney Point

GRAVEL PIT

21 22 23 24 25 26 27 28 33 34 35 36 4 3 2 1

FSE NkB SaC TRE LhB NfA TaB PfB LdC2 LdA FaB RuB RuC2 RuA Ra Gr JSE MY Ok Bt

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 21

680 000 FEET

R. 12 E.

(Joins sheet 6)

950 000 FEET

(Joins sheet 14)

940 000 FEET

690 000 FEET

(Joins upper right)

685 000 FEET

R. 12 E.

(Joins inset)

935 000 FEET

(Joins sheet 22)

925 000 FEET

(Joins inset, sheet 6)

690 000 FEET

T.19 N.

T.18 N.

SOUTHERN

Mulberry Creek

DALLAS COUNTY

GRAVEL PIT

Vine Hill

Vine Hill Ch.

Pleasant Valley Ch.

Fremont

Spring Hill Ch.

Jones

17 18 19 20 29 30 31 32 5 6 7 8

LdC2 Lb Bt Ha Be WkA Ra TaB WkB Mc JSE w

21

N

1 Mile

5000 Feet

Scale 1:20000

22

N

Scale 1:20000

1 Mile 5000 Feet

0 ¼ ½ ¾ 1

0 1000 2000 3000 4000 5000

710 000 FEET

R. 12 E. | R. 13 E.

T. 19 N.

T. 18 N.

935 000 FEET

925 000 FEET

690 000 FEET

(Joins sheet 14)

(Joins sheet 21)

(Joins sheet 23)

(Joins sheet 29)

Walkers Lake

Sand Creek

Buck Branch

Parker Branch

Milton Ch.

Bonita

JSE

Ok

LdA

LdB

LdC2

RuC2

TaB

Be

Ha

WaB

AtB

Ro

32 33 34 35 36 31

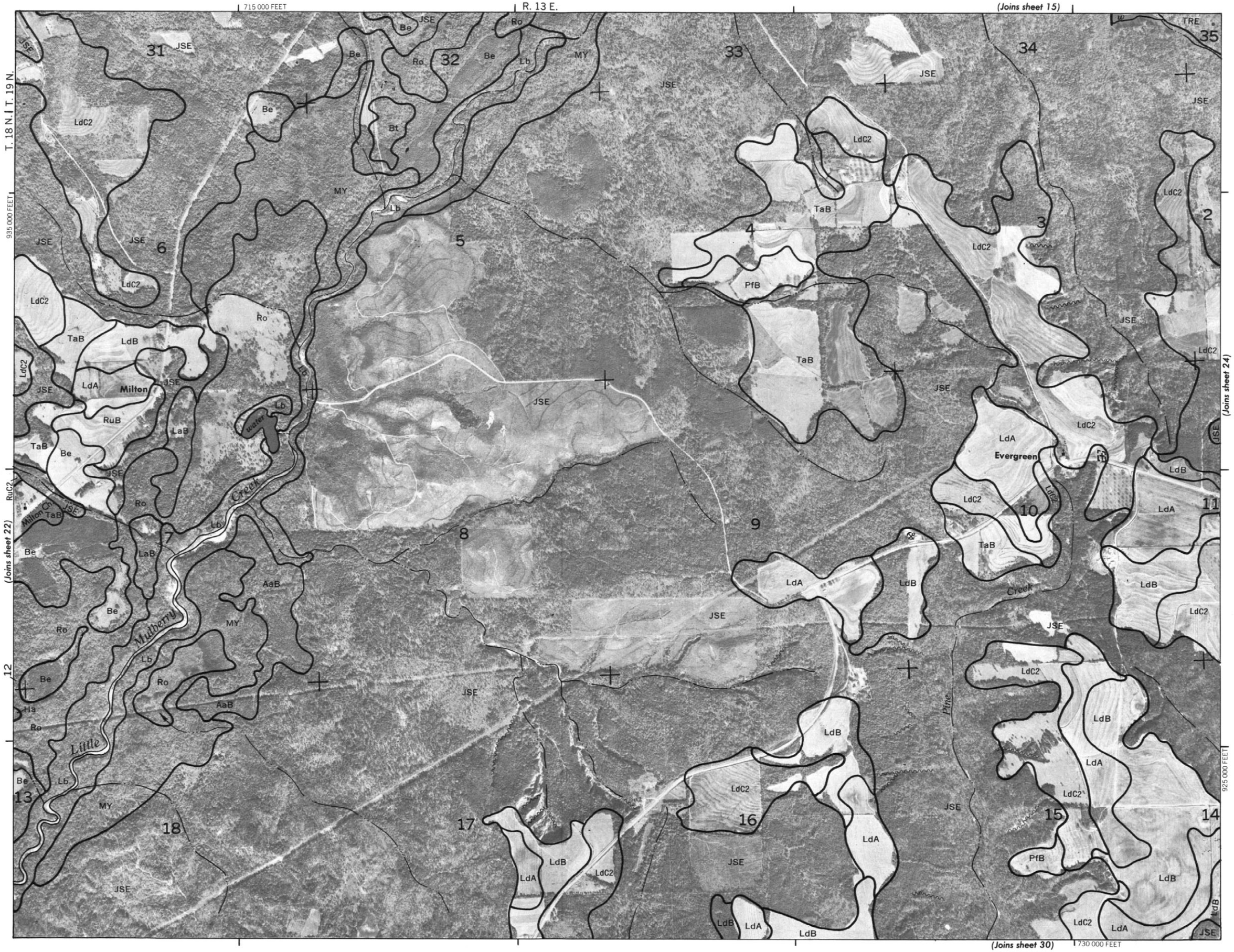
5 4 3 2 1 6

8 9 10 11 12 7

17 16 15 14 13 18

20 21 22

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 23



AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 24

24

N

R. 13 E. | R. 14 E.

T. 18 N. | T. 19 N.

750 000 FEET

935 000 FEET

925 000 FEET

735 000 FEET

(Joins sheet 16)

(Joins sheet 23)

(Joins sheet 25)

(Joins sheet 31)

Vida Junction

Sand Branch

Scale · 1:20000

1 Mile

5000 Feet

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 25

755 000 FEET

(Joins sheet 17)

R. 14 E. | R. 15 E.

25

N

T. 18 N. | T. 19 N.

935 000 FEET

Swift Creek

Joffre

ILLINOIS CENTRAL

GULF

Whitewater Creek

Peace Ch.

water

TRE

TaB

PfB

LhB

RuC2

JSE

LdC2

LdB

MY

Ok

Ha

Be

STE

(Joins sheet 24)

(Joins sheet 26)

(Joins sheet 32)

925 000 FEET

775 000 FEET

1 Mile

5000 Feet

Scale 1:20000

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 26

26

R. 14 E. R. 15 E.

T. 19 N. T. 18 N.

N

(Joins sheet 18)

795 000 FEET

935 000 FEET

925 000 FEET

775 000 FEET

(Joins sheet 25)

(Joins sheet 27)

(Joins sheet 33)

Scale 1:20000

1 Mile 5000 Feet

0 0 ¼ 1000 ½ 2000 ¾ 3000 1 4000 5000

Old Kingston Ch

Poseys Crossroads

Mt. Sinai

Autauga Creek

water

ILLINOIS CENTRAL GULF

TaB TRE MY PfB LhB Bt AaB RuB JSE LdB Ok NfA Ha

31 32 33 34 36 5 6 4 3 2 1 7 8 9 10 11 12 18 17 16 15 14 13 19 20 21 22 23 24

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 27

R. 15 E. | R. 16 E.

800 000 FEET

(Joins sheet 19)

935 000 FEET

T. 18 N.

(Joins sheet 26)

(Joins sheet 28)

925 000 FEET

(Joins sheet 34)

815 000 FEET

27

N

1 Mile

5000 Feet

Scale 1:20000

Bridge Creek Lake

Bridge Creek

Turnback Creek

Little Bridge Run

Pink Lily Ch.

water

Ok

TRE

STE

MY

JSE

AaB

TaB

LhB

PfB

RuB

RuC2

SaC

NkB

Bt

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 28

28

N

1 Mile 5000 Feet

Scale 1:20000

0 ¼ ½ ¾ 1

0 1000 2000 3000 4000 5000

R. 16 E.

835 000 FEET

935 000 FEET

925 000 FEET

820 000 FEET

T. 18 N.

ELMORE COUNTY

(Joins sheet 20)

(Joins sheet 27)

(Joins sheet 35)

Pine Level Branch

water

Turnbeck Creek

Breakfast Creek

Pierce Creek

Hudson Creek

County Line Ch.

County Line Ch.

Bt NkB RuB SaC RuC2 TaB NfA PfB RuA FaB LdA LdC2 JSE Ok TRE LhB MY

1 2 3 4 8 9 10 11 12 13 14 15 16 17 20 21 22 23 24

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 29

690 000 FEET

920 000 FEET

R. 12 E. | R. 13 E.

(29)

N

(Joins sheet 22)

(Joins sheet 30)

(Joins inset, sheet 6)

T. 17 N. | T. 18 N.

910 000 FEET

710 000 FEET

(Joins sheet 36)

Buck Creek

Mulberry Creek

Little Mulberry Creek

Fig Tree Ch.

DALLAS COUNTY

1 Mile

5000 Feet

Scale 1:20000

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 30

30

N

R. 12 E.

R. 13 E.

(Joins sheet 23)

730 000 FEET

920 000 FEET

910 000 FEET

715 000 FEET

(Joins sheet 29)

(Joins sheet 31)

(Joins sheet 37)

T. 18 N.
T. 17 N.

Scale 1:20000

1 Mile
5000 Feet

Harmony Ch.

Winslow

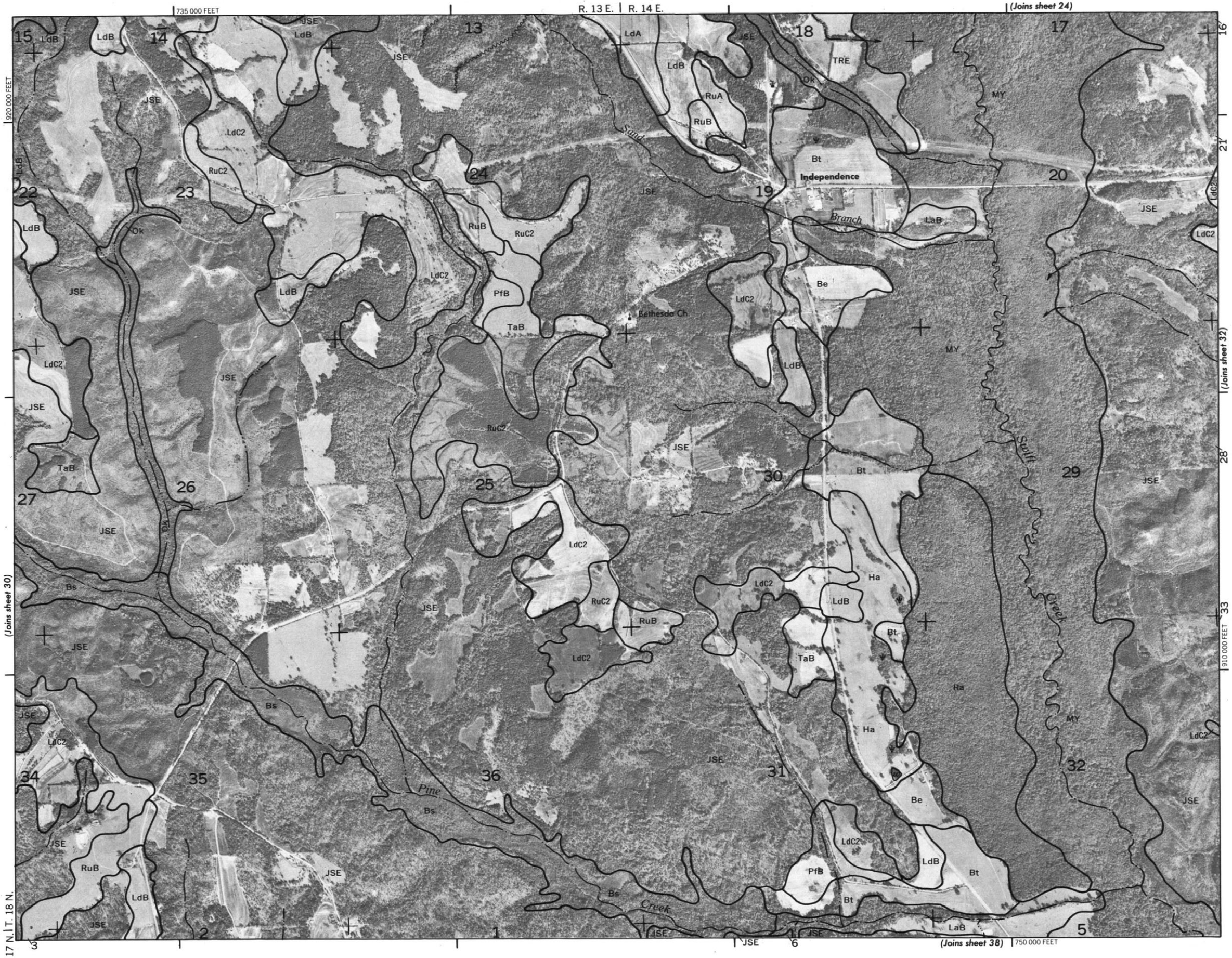
Pine Creek

Ok

18 17 16 15
19 20 21 22
24 23
30 29 28 27
25 26
31 32 33 34
36 35

LdA LdB LdC2 JSE LhB RuA RuB RuC2 TaB Gr FaB Bs

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 31



AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 32

32

N

R. 14 E. | R. 15 E.

775 000 FEET

(Joins sheet 25)

16 15 14 13

17 20 29 32

920 000 FEET

19 30 31

910 000 FEET

1 Mile

5 000 Feet

Scale · 1 : 20000

0 ¼ ½ ¾ 1

0 1000 2000 3000 4000 5000

TaB LdC2 JSE PfB LhB RuB LdB LdA RuC2 Ra Be Bs

Friendship Sch.

White Water Ch.

Mt. Zion Ch.

Whitewater Creek

21 22 23 24 25 26 27 28 33 34 35 36 4 3 2 1 5

(Joins sheet 31)

(Joins sheet 33)

(Joins sheet 39)

755 000 FEET

T. 17 N. T. 18 N.

R. 14 E. | R. 15 E.

775 000 FEET

(Joins sheet 26)

33

N

920 000 FEET

T. 17 N. | T. 18 N.

(Joins sheet 32)

(Joins sheet 34)

910 000 FEET

(Joins sheet 40)

775 000 FEET

Scale 1:20000

1 Mile

5000 Feet

Ha JSE Bt MY LhB PfB TaB LdC2 LdB LdA RuB RuC2 RuA TRE Ok NkB NkC NfA Be STE water

Autauga Creek

Mill Creek

New Mt. Zion Ch.

Locust Bluff Sch.

Booth

ILLINOIS CENTRAL GULF

19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 1 6 5 4 3

82 6

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 34

34

N

(Joins sheet 27)

R. 15 E. | R. 16 E.

815 000 FEET

920 000 FEET

910 000 FEET

800 000 FEET

(Joins sheet 33)

(Joins sheet 35)

(Joins sheet 41)

T. 17 N. | T. 18 N.

1 Mile

5000 Feet

Scale · 1 : 20000

Pleasant Hill Ch.

Autauga Creek

Bridge Creek

Breakfast Creek

ILLINOIS CENTRAL GULF

19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 1 2 3 4 5 6

AaB BeA BsE BtA FaB HaA JSE LdA LdB LdC2 LhB MY NkB Ok PfB RuB RuC2 SsE TaB TeB TRE

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 35

820,000 FEET

R. 16 E.

(Joins sheet 28)

35

N

920,000 FEET

T. 17 N. | T. 18 N.

(Joins sheet 34)

910,000 FEET

835,000 FEET

(Joins sheet 42)

1 Mile

5000 Feet

Scale 1:20000

ELMORE COUNTY

Pleasant Hill Ch.

County Line Ch.

Pierce Creek

Hudson Creek

Pine Creek

Dump Branch

21 22 23 24 25 26 27 28 29 32 33 34 35 36 5 4 3 2 1

JSE SaC LdA FaB Ok RuC2 RuB LdB LdC2 SsE Gr LhB RuA Bs NkB AtA

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 36

(36)

N

(Joins sheet 29)

33

34

R. 12 E.

35

36

710 000 FEET

905 000 FEET

T. 17 N.

T. 18 N.

1 Mile

5000 Feet

Scale · 1:20000

0 0

¼ 1000

½ 2000

¾ 3000

1 4000

5 000

890 000 FEET

690 000 FEET

(Joins sheet 43)

(Joins sheet 37)

Mulberry Creek

DALLAS COUNTY

Buck Creek

Little Mulberry Creek

Statesville

OcD WaB Ha JSE LdB Be Lb LdC2 LdA WkA LaB Bt RuB NfA RuA WsD OcB Ra LhB SVE WkB

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 37

R. 12 E. | R. 13 E.

T. 17 N. | T. 18 N.

715 000 FEET

905 000 FEET

(Joins sheet 30)

(Joins sheet 38)

(Joins sheet 36)

(Joins sheet 44)

730 000 FEET

890 000 FEET

37

N

1 Mile

5000 Feet

Scale · 1:20000

Ivy Creek Ch.

St. Matthew Ch.

Mulberry Creek

water

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 38

38

N

R. 13 E. | R. 14 E.

T. 18 N.
T. 17 N.

750 000 FEET

905 000 FEET

890 000 FEET

735 000 FEET

(Joins sheet 31)

(Joins sheet 37)

(Joins sheet 39)

(Joins sheet 45)

Scale · 1 : 20000

1 Mile

5000 Feet

Pine Creek

Swift Creek

Shiloh Ch

Beaver Creek

Beulah Branch

Bough Creek

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 39

39

755 000 FEET

R. 14 E.

(Joins sheet 32)

905 000 FEET

T. 17 N.

(Joins sheet 38)

(Joins sheet 40)

890 000 FEET

(Joins sheet 46)

775 000 FEET

N

1 Mile

5000 Feet

Scale 1:20000

BEAR CREEK SWAMP

Swift Creek

Whitewater Creek

Yellowwater Creek

Whitewater

water

MY LdC2 JSE Ra PfB WkB WaB Be Ha LhB TaB Bs RuB RuC2 LaB WkA AtA LdA Mc Ro Bt

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 40

40

N

R. 14 E. | R. 15 E.

(Joins sheet 33)

795 000 FEET

905 000 FEET

T. 17 N.

(Joins sheet 41)

(Joins sheet 39)

890 000 FEET

775 000 FEET

(Joins sheet 47)

Scale 1:20000

1 Mile | 5000 Feet

0 0 1000 2000 3000 4000 5000

¼ ½ ¾ 1

LdB LdA LhB JSE TaB PfB Ok WaB Ha Be Ra Rg Bs SVE Ro WkB WkA AtA Mc w

1 2 3 4 5 6 7 8 9 10 12 13 15 16 17 18 19 20 21 22 24

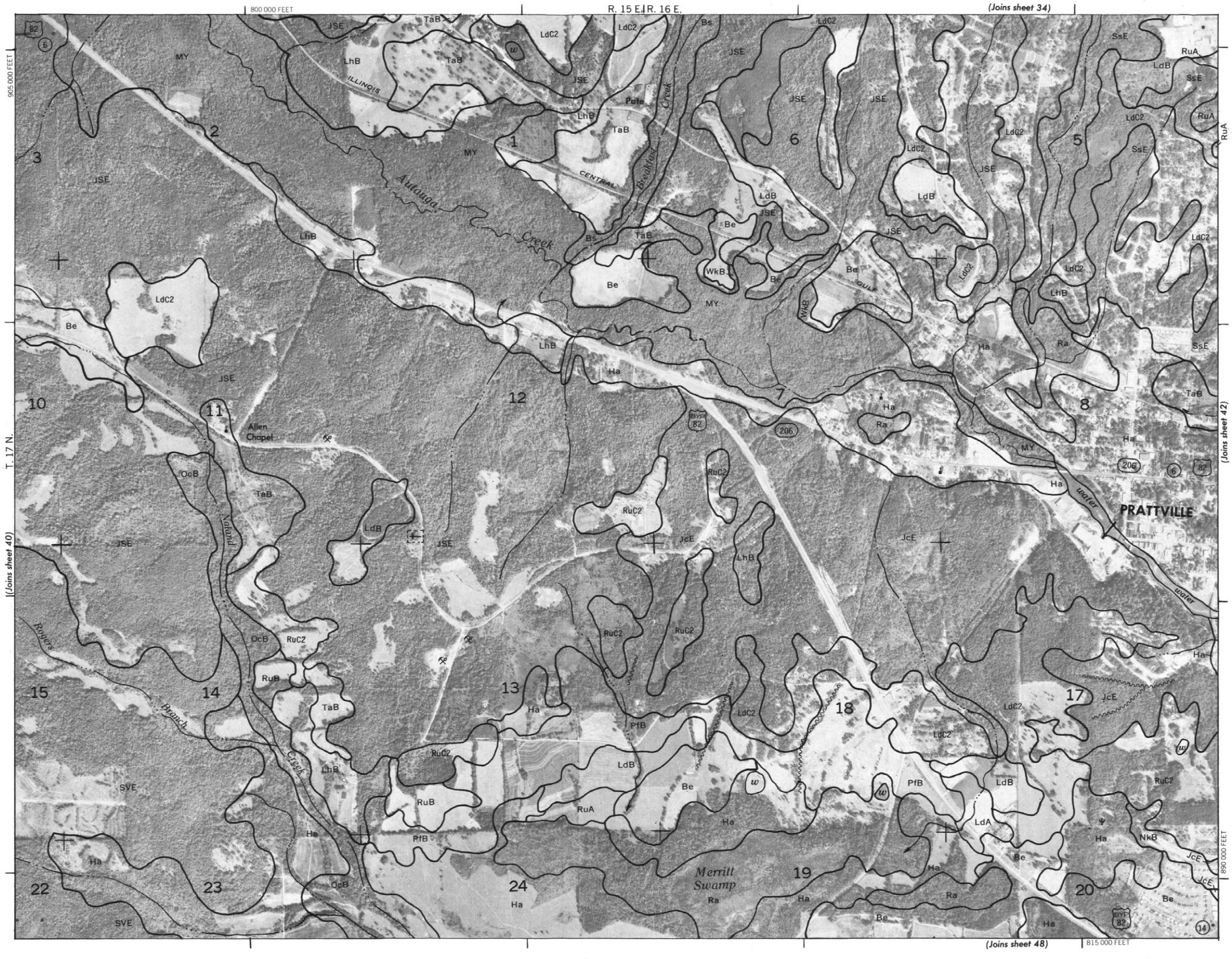
Idlewild Lake

Haney Branch

Rogers Branch

BEAR CREEK SWAMP

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 41



42

N

R. 16 E.

835 000 FEET

905 000 FEET

(Joins sheet 35)

(Joins sheet 41)

PRATTVILLE
(county seat)

Memory Gardens Cem.

Grahamhaven Lake

Pine Creek

Pine Creek

water

ILLINOIS

CENTRAL

GULF

T. 17 N.

ELMORE COUNTY

890 000 FEET

820 000 FEET

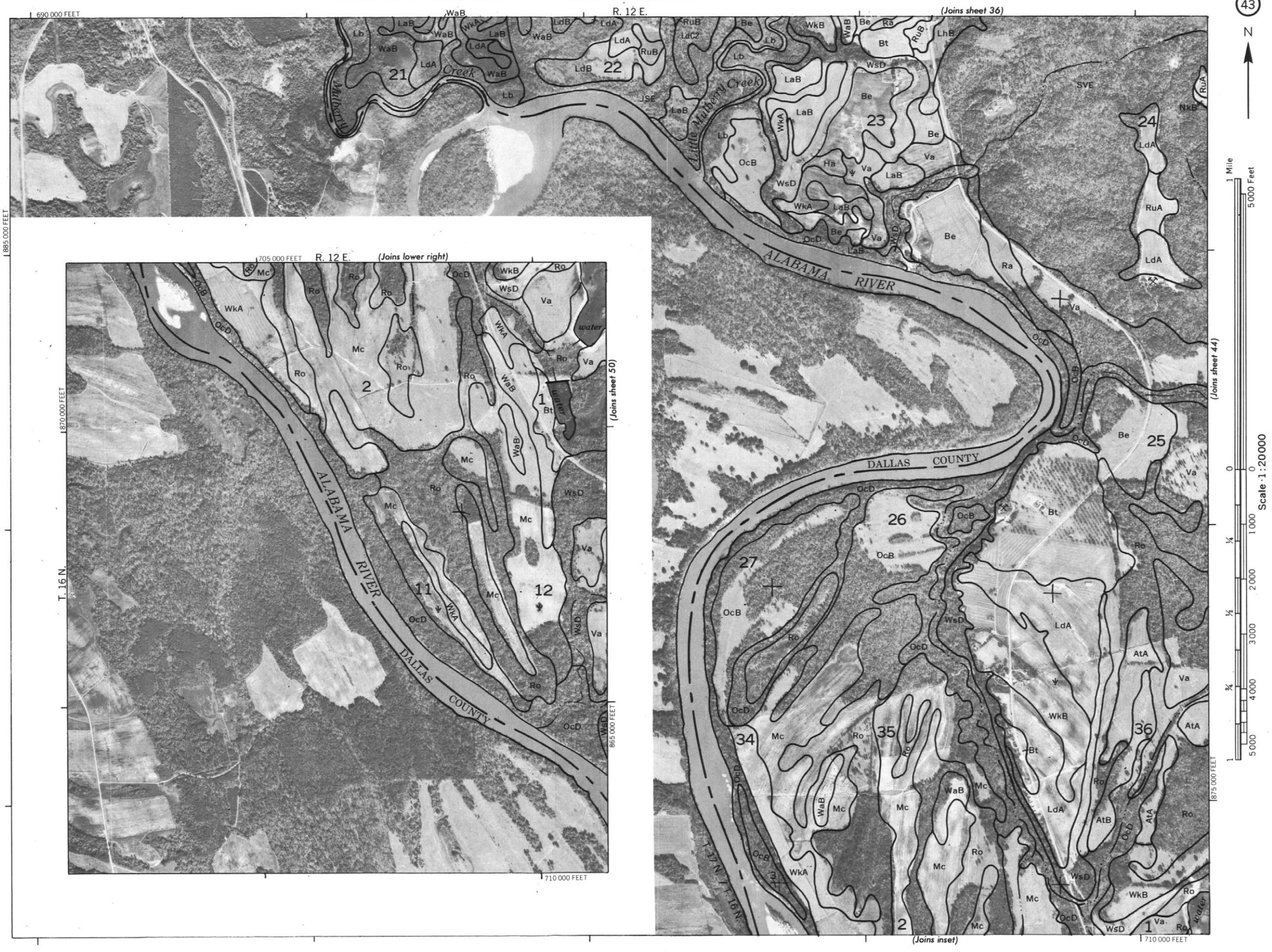
(Joins sheet 49)

1 Mile

5000 Feet

Scale 1:20000

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 43



44

N

13 R. 12 E. | R. 13 E. 18 (Joins sheet 37) 17 16

730 000 FEET

885 000 FEET

875 000 FEET

715 000 FEET (Joins sheet 50)

(Joins sheet 43)

(Joins sheet 45)

T. 16 N. | T. 17 N.

1 Mile 5000 Feet

Scale 1:20000

0 0 ¼ 1000 ½ 2000 ¾ 4000 1 5000

Creek

Pine Grove Ch.

Peace

Bluff

Jones

water

SVE JSE NkB NkC NfA RuA RuB RuC2 LdB LdA LhB Gr Ro Va VsD WkB WkA AtA OcB OcD Mc PfB

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 45

735 000 FEET

R. 13 E. | R. 14 E.

(Joins sheet 38)

885 000 FEET

(Joins sheet 44)

T. 16 N. | T. 17 N.

(Joins sheet 51)

750 000 FEET

875 000 FEET

(Joins sheet 46)

45

N

1 Mile

5000 Feet

Scale · 1 : 20000

Cedar Grove Ch.

ALABAMA — LOWNDES COUNTY

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 46

46

N

(Joins sheet 39)

R. 14 E.

775 000 FEET

885 000 FEET

(Joins sheet 45)

(Joins sheet 47)

875 000 FEET

755 000 FEET

(Joins sheet 52)

T. 16 N. | T. 17 N.

Scale · 1 : 20000

1 Mile

5000 Feet

Autaugaville

Whitewater Creek

Swift Creek

Yellowwater Creek

Robinson Pond

ALABAMA RIVER

LOWNDES COUNTY

20 21 22 23 24 25 26 27 28 29 32 33 34 35 36 1 3 4 5

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 47

R. 14 E. | R. 15 E.

775 000 FEET

(Joins sheet 40)

47

N

T. 17 N.

885 000 FEET

(Joins sheet 46)

(Joins sheet 48)

(Joins sheet 53)

875 000 FEET

795 000 FEET

1 Mile

5000 Feet

Scale 1:20000

BEAR CREEK SWAMP

Robinson Pond

Rocky Branch

Forester

Peace and Goodwill Ch

water

Mc Ra Ro WkA WkB LdA AtA AtB LaB WaB Bt Ha SVE LdB LdC2 RuA RuB NkC TaB Be

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 48

48

N

1 Mile 5 000 Feet

Scale · 1 : 20000

0 ¼ ½ ¾ 1

0 1000 2000 3000 4000 5000

(Joins sheet 41)

R. 15 E. | R. 16 E.

815 000 FEET

885 000 FEET

875 000 FEET

800 000 FEET

(Joins sheet 47)

(Joins sheet 49)

(Joins sheet 54)

T. 16 N. | T. 17 N.

Autauga Hill Sch.

Noland Creek

Dry Branch

UNION CAMP PAPER CO. WASTE LAGOON

Wadsworth

water

22 23 24 19 20 27 26 25 30 29 34 35 36 31 32 3 2 1 6 5

SVE Ha Be Ra OcB LdB LdC2 RuB RuC2 RuA AtA AtB WkB WsD TaB Bs Ro WkA Mc LaB WaB OcD

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 49

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 50

50

N

R. 12 E. | R. 13 E.

(Joins sheet 44)

730 000 FEET

(Joins sheet 51)

(Joins inset, sheet 43)

1 Mile

5000 Feet

Scale 1:20000

870 000 FEET

860 000 FEET

715 000 FEET

(Joins sheet 56)

Big Springs Ch.

LOWNDES COUNTY

DALLAS COUNTY

ALABAMA RIVER

Jones Bluff

Fuji Creek

T. 16 N.

water

SVE

RuA

RuB

AtA

AtB

WsD

NfA

NkB

LdA

Ra

WkA

WkB

WaB

Mc

Ro

Va

Be

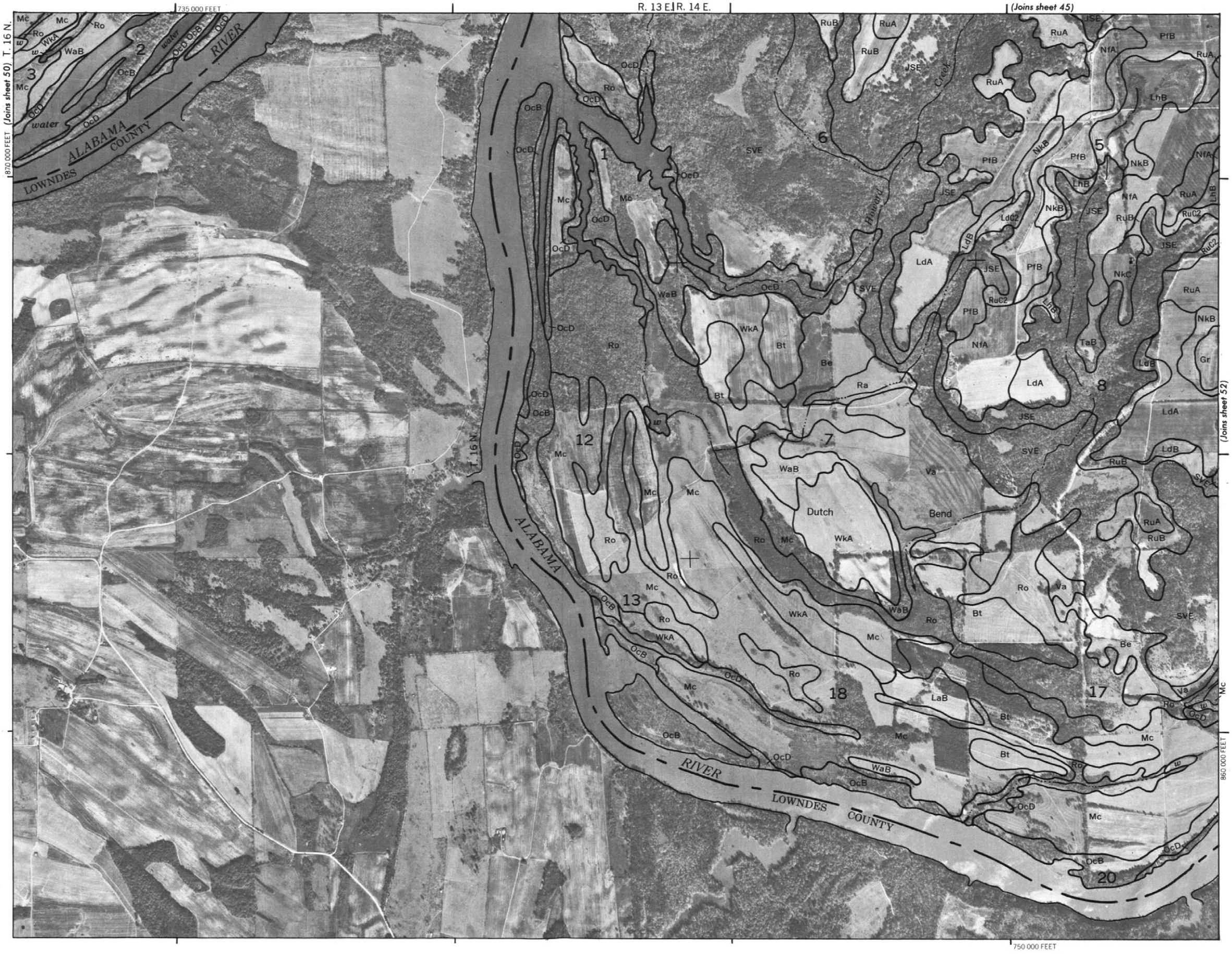
OcB

OcD

PfB

TaB

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 51



52

N

Scale 1:20000

1 Mile 5000 Feet

0 0

1/4 1000

1/2 2000

3/4 4000

1 5000

(Joins sheet 46) R. 14 E. 775 000 FEET

(Joins sheet 46)

R. 12 E. 711 000 FEET

855 000 FEET

870 000 FEET

(Joins sheet 51)

(Joins sheet 53)

(Joins sheet 56)

T. 16 N.

860 000 FEET

845 000 FEET

755 000 FEET

708 000 FEET

3000 AND 5000-FOOT GRID TICKS

RIVER

ALABAMA

LOWNDES

COUNTY

water

Molly

Branch

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 53

53

R. 14 E. | R. 15 E.

775 000 FEET

(Joins sheet 47)

N

T. 16 N.

870 000 FEET

860 000 FEET

795 000 FEET

(Joins sheet 52)

(Joins sheet 54)

BEAR CREEK SWAMP

Hurricane Creek

Rocky Branch

Mt. Romoth Ch.

ALABAMA RIVER

LOWNDES COUNTY

Scale · 1:20000

1 Mile

5000 Feet

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 54

54

N

(Joins sheet 48)

R. 15 E. | R. 16 E.

815 000 FEET

870 000 FEET

T. 16 N. (Joins sheet 55)

860 000 FEET

800 000 FEET

(Joins inset, sheet 55)

(Joins sheet 53)

1 Mile 5000 Feet

Scale 1:20000

0 0 ¼ 1000 ½ 2000 ¾ 3000 1 4000 5000

Wadsworth Ponds

Noland Creek

Poplar Springs Ch.

UNION CAMP PAPER CO. WASTE LAGOON

LAGOON

water

Bilder Creek

Voland Creek

MONTGOMERY COUNTY

ALABAMA RIVER

ALABAMA RIVER


R. 16 E. (Joins sheet 49)
820 000 FEET
870 000 FEET
T. 16 N.
(Joins sheet 54)
Mc
WkA
OcB
Ro
WaB
LaB
AtA
OcD
5
4
8
9
RIVER
COUNTY
MONTGOMERY
ALABAMA
(Joins sheet 54)
800 000 FEET
R. 15 E.
R. 16 E.
865 000 FEET
T. 16 N.
23
24
22
26
27
25
19
LaB
WaB
AtB
Mc
Ro
WkA
OcD
MONTGOMERY COUNTY
RIVER
ALABAMA
LOWNDES COUNTY
860 000 FEET
852 000 FEET
3000 AND 5000-FOOT GRID TICKS
810 000 FEET
835 000 FEET
55
N
1 Mile
5000 Feet
0
Scale 1:20000
1000
2000
3000
4000
5000

AUTAUGA COUNTY, ALABAMA — SHEET NUMBER 56

56

R. 12 E. | R. 13 E.

(Joins sheet 50)

730 000 FEET

855 000 FEET

N

1 Mile

5 000 Feet

Scale · 1 : 20000

(Joins inset, sheet 52)

845 000 FEET

715 000 FEET

T. 15 N. / T. 16 N.

DALLAS COUNTY

ALABAMA RIVER

JONES BLUFF RESERVOIR

JONES BLUFF LOCK AND DAM

LOWNDES COUNTY

ALABAMA RIVER

Bend

Days

water

19 20 21 24 25 28 29 30 31 32 36 1 6

OcD OcB WkA WkB WsD LdA AtA AtB Ra Ro Mc WaB